

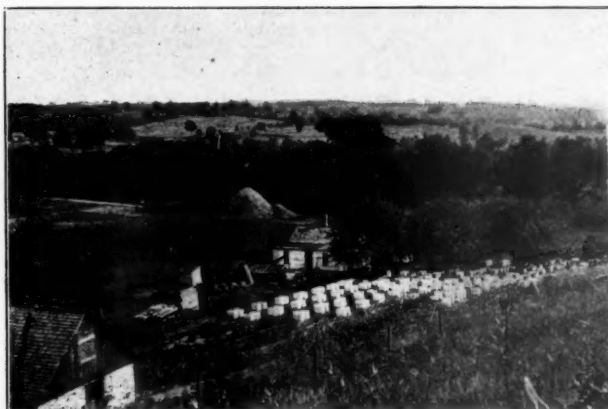
February, 1912

Volume LII. No. 2

# AMERICAN BEE JOURNAL



**The Oldest Bee-Paper in America**



250-Colony Out-APIary of A. G. Woodman Co.,  
of Michigan.



Part of 300-Colony Apiary of John F. Otto,  
of Wisconsin.



Oklahoma State Fair Apiarian Exhibit of Geo. H. Coulson—(25 feet long and 14 feet high.)

# American Bee Journal



PUBLISHED MONTHLY BY  
**GEORGE W. YORK & COMPANY**  
117 N. Jefferson Street, Chicago, Ill.

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(Organized 1870.)

## National Bee - Keepers' Association

### OBJECTS

The objects of this Association shall be to aid its members in the business of bee-keeping; to help in the sale of their honey and beeswax; and to promote the interests of bee-keepers in any other direction decided upon by the Board of Directors.

### Officers

President—George W. York, Chicago, Ill.  
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**Annual Membership Dues \$1.50**, one-third (50 cents) of which goes to the local branch where such branch is organized.

Send Dues to the Secretary, E. B. Tyrrell.

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MESSRS. GEORGE W. YORK & CO.

Gentlemen:—Enclosed you will find my renewal for another year to the "Old Reliable." I simply cannot do without your paper, and I believe if I could not get it I would certainly have to give up keeping bees, so closely is it linked with my bee-keeping life. You can certainly count on me for life, as I get more pleasure and profit out of a single number of your paper than a whole year costs.

WALTER E. ATKINSON.

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GEORGE W. YORK & Co.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine. I introduced them among black bees, and the bees are nearly yellow now, and are doing good work.  
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Marion Co., Ill., July 13.      B. E. McCORM.

We usually begin mailing Queens in May, and continue thereafter on the plan of "first come first served." The price of one of our Untested Queens alone is 90 cents, or with the old American Bee Journal for one year—both for \$1.60. Three Queens (without Journal) would be \$2.50, or 6 for \$4.50. Full instructions for introducing are sent with each Queen, being printed on the underside of the address-card on the mailing-cage. You cannot do better than to get one or more of our fine Standard-Bred Queens.

**George W. York & Co.,**

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Jones—"Sure, glad to. **THE FRED W. MUTH CO., 51 WALNUT ST., CINCINNATI, OHIO**, gets every pound I produce, and I always receive my money the day the shipments arrive. They buy my **BEESWAX**, too. And, by the way, they handle the finest **BEE-SUPPLIES** on the market—Falconer Manufacturing Co.'s make. Write them for a **Catalog**—am sure they will be glad to send you one."

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# American Bee Journal



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We mail the book for \$1.20, or club it with the American Bee Journal for one year—both for \$2.00. This is indeed a splendid chance to get a grand bee-book for a very little money.

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CHICAGO, ILL.

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## BEES AND HONEY

# FIRST LESSONS IN BEE-KEEPING

NEWMAN

DADANT

The above is the title of a new and revised edition of what for many years was the book called "Bees and Honey," written by the late Thomas G. Newman, editor of the American Bee Journal. Mr. C. P. Dadant, whose reputation as a honey-producer and expert bee-keeper is unquestioned, revised the book recently. The last edition consisted of 160 pages, but the revised edition, hereafter to be known as "First Lessons in Bee-Keeping," contains nearly 200 pages, and is perhaps the most generously illustrated bee-book of its size now published, as it has over 150 pictures.

"First Lessons in Bee-Keeping" is principally for beginners in the bee-business, as its name indicates. It contains the foundation principles of bee-keeping—just what every beginner ought to know in order to start right with bees. It does not pretend to cover the subject in so thorough manner as do the higher-priced and larger bee-books, such as "Langstroth on the Honey-Bee," Prof. Cook's "Bee-Keepers' Guide," etc., but there are a large number of very important preliminary principles that should be well understood by every one who intends to take up bee-keeping, and this book is just the thing for that purpose.

It is printed on excellent paper, and well bound in pamphlet style. The outside appearance of the cover of this book, is entirely different from anything yet seen on a bee-book. One can know without reading a word that it is something about bees, by simply looking at the cover, either front or back.

We intend to present a copy to any person who sends us \$1.00 for a year's subscription *in advance* to the American Bee Journal, whether a new or renewal subscriber; but, of course, the booklet *must be asked for* when subscribing and sending the dollar.

The price of "First Lessons in Bee-Keeping," bound in strong paper, is 50 cents, postpaid. We would suggest that every Journal reader secure a copy of this book in connection with your own advance renewal subscription, and then show it to your neighbor bee-keepers, and get them to send in their subscription; or, if you wish to sell the book to your neighbors, we will make you a liberal discount for such purpose. But be sure to get a copy of the book yourself, so as to see what a beauty it is. Address,

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We also manufacture **Hives, Brood-Frames, Section-Holders and Shipping-Cases.**

Our Catalog is free for the asking.

Marshfield Mfg. Co.,

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But there is one kind of Advertising that is not bought and can not be bought.

This is the Good Words that go from mouth to mouth about

## **LEWIS BEEWARE DADANT'S FOUNDATION AND THE SOUTHWESTERN BEE CO.**

We urge you to ask any Bee-Keeper about these Goods which are being sold by us exclusively in Texas, and also all about the

### **Southwestern Bee Co.**

You are the Jury, and You are the Judge—

### **TEXAS BEE-KEEPERS!**

We constantly carry on hand at our New Place of Business—at 1022 South Flores Street, San Antonio—several carloads of the Famous Lewis Beeware and Tons of Dadant's Foundation, as well as American Can Company's Cans in large quantities.

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Let Lewis and Dadant and the Southwestern Bee Company be your Slogan, and you will go into Port at the end of the Season with a full cargo successfully produced.

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## **SOUTHWESTERN BEE CO.**

**1022 South Flores Street,**

**San Antonio,**

**Texas**





(Entered as second-class matter July 30, 1907, at the Post-Office at Chicago, Ill., under Act of March 3, 1879.)

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GEORGE W. YORK, Editor.  
DR. C. C. MILLER, Associate Editor.

CHICAGO, ILL., FEBRUARY, 1912

Vol. LII---No. 2

## EDITORIAL



## COMMENTS

### Bee-Keepers' Conventions

A good deal has been said, one time and another, as to what is the best way to arouse interest in those who attend conventions, and to hold that interest. The matter is of so much importance that it would not be a bad thing to have a pretty general discussion regarding it.

When two bee-keepers meet, small time is likely to elapse before they begin to talk bees. If a third member is added to the number, the interest is likely to be greater than with only two, and in general an increase of numbers means an increase of interest. Yet when the number becomes sufficiently great there is likely to be some confusion, and it becomes desirable, if not absolutely necessary, to have some organization with a presiding officer. Thus, instead of a chance meeting, we have a convention.

Just what is the best way to fill up the time of a convention to get the most pleasure and profit out of it is not easy to say. What may be best for one time and place may not be best for another. Based on the idea that two or more bee-keepers are always interested in talking bees, the time may be taken up with discussions of a more or less conversational character, a question-box furnishing topics for discussion. So it has been the case in some conventions that the entire time has been taken up with the question-box.

There is some danger that when the question-box holds a prominent place there may be more or less loose talk without very much careful thinking. A written paper gives more chance for careful preparation, and in some conventions such prepared articles take up most of the time. Some, however, will object that the proper place for written papers is in the bee-periodicals, and that they can get more good out of such reading in the quiet of their own homes. This objection has all the

more force if the bee-keeper is under considerable expense for railroad fares and hotel bills.

As a compromise, some advocate a short paper to introduce a topic, to be followed by extempore discussion. The danger in this case is that the paper is likely to be exhaustive rather than introductory. Also there is danger that instead of short papers the papers may be so long as to take up the whole time, leaving no time for discussion.

There is no denying that at a convention those who attend desire especially those things that they can not get elsewhere. Prominent among these is the social feature—the meeting of other bee-keepers face to face—and also the oral discussions. Much, very much, depends upon the presiding officer as to whether extempore discussions shall be profitable or not. Timely suggestions on his part, and more or less strict holding to the topic in hand, may make all the difference between failure and success.

Latterly there has been a tendency toward thinking that less time should be taken in discussing matters directly in the line of practical management of bees, and more as to other matters of organization. More business and less bee-talk. It is a question of very little interest as to whither this may grow. Experience teaches, and in at least one case it has turned out not entirely as expected. Speaking of the Ontario convention, J. L. Byer says in *Gleanings in Bee Culture*:

The convention was strictly a *business* one, and it was a question in the mind of some if this feature was not overdone a bit. While we may argue (as the writer has often done) that details of management, etc., should be discussed in local conventions, yet the fact seemed apparent at our late convention that many come to get information who are not as yet interested in freight-rates, co-operation, and a host of other questions that the more seasoned bee-keepers no doubt rightly think should be paramount. This fact was made clear by the lively discussion that fol-

lowed any subject or question that would occasionally crop up concerning actual management connected with the apiary. To my mind it seems clear that we must be careful in future conventions, and not jump too quickly from one extreme to another, else there be danger of cutting out the attendance and interest at our meetings.

The whole subject is one of very great importance, and there is very much left to be said. Those who have had experience in attending conventions, and have given the matter careful thought, may do well to give to our readers their views as to what helps to make a good convention. Our columns are open to them.

### Races of Bees

In an address before the great German convention of bee-keepers, reported in *Bienen-Vater*, Dr. Weygandt says that the original honey-bee was the Caucasian, and from this all others are derived. Even today it shows the greatest inclination to variation, and from it the breeder may obtain almost whatever he wants by careful and continuous selection.

He thinks that each race of bees is best adapted to its own locality, a view in which he by no means stands alone. In other words, the native bee is best. However it may be in other countries, it will hardly do to apply that doctrine too closely, if at all, to this country. Properly speaking, we have no native bee. The black bee was here first, it is true; but the black is really an importation comparatively recent. Because it was first does not at all argue that it is the best. The proof of the pudding is the eating; and the hundreds who had the opportunity, when Italians were introduced, to try blacks and Italians side by side, were practically a unit in saying that more honey could be obtained with Italians.

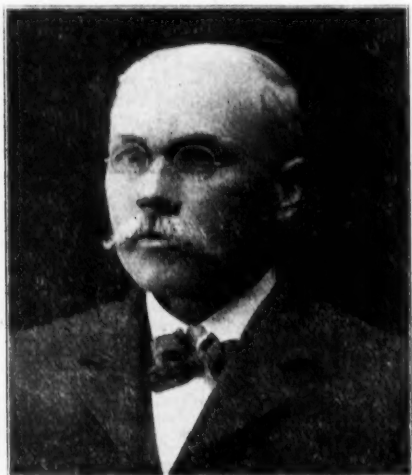
### Board of Directors' Meeting

On another page Secretary Tyrrell, of the National Association, gives a somewhat condensed report of the proceedings of the meeting held by the new Board of Directors at Detroit, Jan. 23, 1912. We trust that all our subscribers will read that report very carefully, and try to realize what it will

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mean to the bee-keeping industry of America to do the several things there outlined.

Perhaps a few comments on the De-



DIRECTOR E. D. TOWNSEND.

troit meeting of the Board of Directors will be appreciated.

In order to have all the good counsel possible, Vice-President Pettit, of Canada, and Treasurer France, of Wisconsin, were requested to meet with the Board. (The President is *required* to preside at all meetings of the Board, according to the new Constitution.)

Owing to illness, Director Wilcox, of Wisconsin, was unable to be present; and, unfortunately, Treasurer France was not present also. All the other Directors and officers were there.

The meeting was held at the home of Secretary Tyrrell, and began at 2 p.m., continued till 6 p.m., and then Mr. Tyrrell generously invited all down to a bountiful supper prepared by his good wife. And what we seven didn't do to that Michigan feast wouldn't be worth mentioning! It was a hungry "bunch," and the honey disappeared with the rest of the good things. (We may say, confidentially, that the secret came out then and there as to Mr. Tyrrell's tremendous energy, resourcefulness, etc. It's greatly due to the good cooking, and the inspiration and helpfulness of his wife's all-around efficiency.)

After supper the seven returned to the "upper-room," and again went at the perplexing problems connected with making the National Bee-Keepers' Association a far more successful institution than it has ever been in the past, though it has done most excellent service.

The Board labored until 10:30 p.m., when it was thought that all had been done that could be done at its first meeting, and probably another meeting will not be necessary until the first one of delegates to be held a year from this month.

We had hoped to include the picture of Director Buchanan, but it did not arrive in time to appear with the rest in this issue.

We want to congratulate the National Association's membership upon the personnel of their Board of Directors.

Some years ago there was considerable criticism in some quarters because several of the directors were bee-supply dealers, though we couldn't see that it interfered with doing their duty as directors. But now all of the directors are *bee-keepers* from start to finish. Mr. Townsend is one of Michigan's largest operators of bees; Mr. Foster and Mr. Buchanan are not only extensive bee-keepers, but State inspectors of apiaries for Colorado and Tennessee, respectively. Mr. Crane is perhaps the largest bee-keeper in Vermont, and Mr. Wilcox is one of the most prominent bee-keepers of Wisconsin. Surely all of them have the best interests of bee-keepers at heart, and will do their utmost so to manage the business affairs of the National Bee-Keepers' Association as to make its membership one of the very best investments any bee-keeper can possibly find.

### Co-operative Apiarian Experiments in Canada

Canadian bee-keepers are to be congratulated on the activity of their Provincial Apiarist, Mr. Morley Pettit. Instead of conducting a number of experiments himself on a small scale, he took up a single experiment and conducted it on a large scale by means of Co-operative Experimentation.

A very meaty circular of 9 pages was sent out to all the bee-keepers of Ontario whose addresses could be obtained, proposing the united carrying out of an experiment which was indicated by the striking title, "Natural Swarming: How to Prevent It." In this was contained some information of the most elementary character, such as would be needed by one without knowledge of bee-keeping, and also matter that would not fail of the most interested attention from practical bee-keepers, discussing the general matter of swarming.

Sooner or later every practical bee-keeper asks the question, "What is the cause of swarming?" This question is not answered in the circular, but "some causes of swarming" are thus given:

1. The supers are crowded with honey; there is still plenty of nectar in the flowers; but the bees have no comb space in which to store it.
2. The colony has a queen with great egg-laying powers; but the brood-chamber is too small for her, and has become crowded with honey and pollen. She has an egg or larva in every cell, and young bees are not hatching rapidly enough to give her room to lay, yet she must be idle or seek a new home with a wider field of usefulness.
3. The secretion of nectar in the flowers is continuous but slow. The queen is constantly stimulated by the incoming sweet to lay, while the demands of the harvest are so light that the workers live much longer than is usual in a heavy harvest. The hive becomes over-populated and crowded.
4. The hive is poorly ventilated, or sits in the sun.
5. Bees often swarm when they are superseding an old queen.

An application blank was enclosed, to be filled out and returned by those making application for the experiment. The applicant was required to promise

to conduct the experiment according to directions as far as possible, and to report on it by filling out a report blank in the fall, whether the experiment was successful or not.

To producers of extracted honey was sent a sheet entitled, "Experiment No. 1." The instructions in this directed that at the time of spring cleaning an even number of colonies should be chosen, not less than 10 nor more than 20. These to be as nearly alike as possible in every way, specific instructions being given as to the particulars in which they should be alike. Then the experimental group was to be divided into two equal lots, Lot A and Lot B.

Lot B was to have precisely the same treatment the whole apiary would have received if the co-operative experiment had never been heard of. For the management of Lot A the following instructions were given:

Let us suppose that Monday is "Apiary Day." Every Monday after the beginning of fruit-bloom each colony of Lot A is examined to note the progress of its development and give necessary treatment.

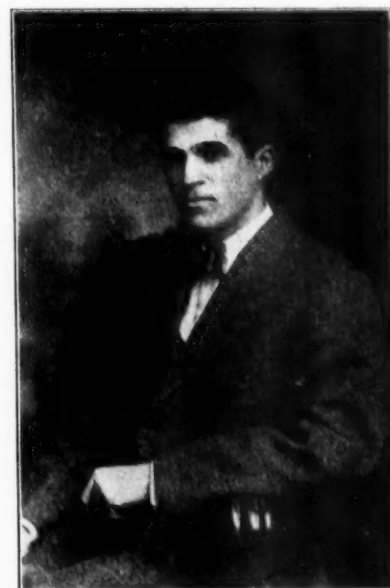
#### WATCHING FOR SWARMING-IMPULSE.

When clover honey starts coming in June, the watch for swarming-impulse begins in earnest.

It is necessary for one who is beginning the study of swarm prevention, to look at every brood-comb of every hive once a week for the next few weeks until the swarming season is past. This seems like a lot of work; but it does not take nearly so much time as one would think. The stirring up the bees makes them work all the better, and it is a great satisfaction after one day spent in the apiary to be able to go off about other work and know there will not be any swarming for a week at least. When one compares this with the worry of fussing with swarms and losing them before and after they are hived, the work of the weekly examination sinks into insignificance.

#### GIVING THE QUEEN ROOM.

When on the weekly examination we find cell-cups with eggs, it is time to start giving



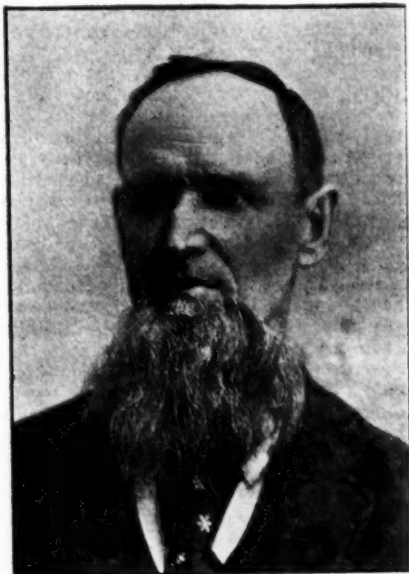
DIRECTOR WESLEY C. FOSTER.

the queen room. Remove a comb from the outside of the brood chamber, and put an empty worker-comb or frame of wired foundation in the center of the brood-nest. If the colony is quite strong, or if the queen-



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cells contain larvæ, it may be given two or three such frames. All queen-cells with eggs or larvæ must be destroyed. To miss destroying even one, may mean that it would be developed and a swarm issue. In every



DIRECTOR FRANKLIN WILCOX.

case alternate foundation or empty combs with brood.

In removing combs from the brood-chamber, follow this order: First empty combs and combs of honey until they are out, then sealed brood. If the empties are clean and the honey white, place them in the extracting supers of the same hive if they will fit, also the brood unless it is needed for making increase or building up weak colonies.

When queen-cells for swarming are found far advanced, the final remedy is to take away all the combs of brood but the one which has the least brood, and give empty worker-combs or frames of wired foundation.

Of course the object of the experiment was to secure a comparison of the results obtained from Lot A as compared with those of Lot B.

To producers of comb honey was sent "Experiment No. 2." In this the following ground is held: "About the only way to avoid having natural swarms is to make artificial ones." So instructions are given for weekly examinations, just as was given to the producers of extracted honey, and then when eggs are found in queen-cells, and indications point to swarming a shaken swarm is to be made. That is, the brood-combs are taken away from the hive, most of the bees having been shaken from them, leaving in the old hive the queen, most of the bees, one worker-comb, and enough frames to fill out the hive, these frames containing half-inch starters of foundation. Of course, using such shallow starters is open to the objection that drone-comb will be built, and concerning this Mr. Pettit says:

One disadvantage of living on starters is the great quantity of drone-comb that will be built in the brood-chamber. This can not very well be avoided. Owing to the uncertainty of the honey season, and the necessity of having sections well filled we must crowd the super work by giving little or no material to build on in the worker-chamber, and the excess of drone-comb is the result. As soon as the white honey is ready to come off, the frames containing most drone-comb must be removed from the

brood-chambers and worker-combs, or full sheets of foundation, put in their place. Then if the fall honey-flow is not sufficient to fill these up for winter, feeding can be resorted to.

Some one may say: "But this can hardly be called experimenting, for these plans of management are in effect well known to experienced bee-keepers." To a certain extent this is true, yet it is probably also true that the great majority of bee-keepers have never tried the plans given, and to them the carrying out of such plans in comparison with their previous plans would be experimenting in a most emphatic manner.

In his report of the results of this co-operative experimenting, Mr. Pettit says reports were received from 62 bee-keepers, 24 of these reports being quite full. As might be expected, some of the bee-keepers were better satisfied with excellent plans that they had previously used. On the whole, however, there was a gain. Summing up the whole of Lot A and of Lot B, it was found that only 18 percent of Lot A cast prime swarms, as against 38 percent of Lot B.

As a result of this control of swarming and the extra attention given to the colonies of Lot A, the average return in honey was 83 pounds per colony as against 75 3 pounds per colony of Lot B. In addition to this, there was an average number of 7 combs per colony built in Lot A, and 5 combs per colony in Lot B.

The likelihood is that this increase of 10 percent in the amount of honey obtained will stimulate others who are not doing as well as they might, and Mr. Pettit will be watched with interest from this side the line to see what further he may do.

## Repression of Swarming

On page 263, of the American Bee Journal, was given a brief review of a pamphlet printed in Germany whose title, translated into English, is "Why Do So Many Apiaries in the Villages Stand Empty?" A correspondent who has this pamphlet is especially interested in one chapter, and writes as follows:

DR. MILLER:—I have a German pamphlet entitled "Warum Stehen auf den Dörfern so viele Bienenhuetten leer?" I understand in every way German as well as English, and think the publication a very good one. A part of same especially of interest to me is under the heading: (3) "Excessive Swarming Must Be Prevented," and a way is set forth which includes increase, which, it seems to me, I have not seen suggested elsewhere in its entirety, and I would be pleased not only to have your opinion of it, but hope to see a further discussion thereof in the American Bee Journal by others as well. I translate as follows:

"Nothing is easier than to suppress swarming and bring about increase artificially. It is done as follows: When the colonies are in their highest State of development (he says end of May; I would say for my latitude, end of April?), dequeen the best colony as apparent by wealth of honey, number of bees, etc. Make use of the queen elsewhere. The colony will make a lot of queen-cells, every one of which will be well cared for, the same being in its fullest strength or vigor. Shortly before the young queens are to slip out, divide the colony into as many nuclei as there are queen-cells and frames of brood. Six to 8 nuclei may be expected; with good weather, the young queens will be mated after 3 days, and soon begin to lay. At this stage frames of brood are to be taken away from other colonies in order to bring about their swarming proclivity, and these same frames are given to the nuclei so as to strengthen them. This is of great help to the latter, and the strong

colonies readily bear up with the deprivation. Frames of foundation (full or starters?) are given in place of the brood taken away, which will at once be drawn out, and as long as such a colony has that to do, or to care for uncapping brood, it will not give off any swarm."

The author further asserts that a good point about such nuclei is, that their queens can easily be observed and tested as to their value. He denotes queens by one year cutting the right wing, and the next the left one. He further says that the nuclei often need feeding; viz., with honey and pollen.

So much from the pamphlet.

In reply to questions I put by mail to the author, he has answered:

"It is necessary carefully to remove all and every bee from the frames of brood, before giving same to nuclei, as such might otherwise kill the young queen. As the 'ripe' frames of brood will give to the nuclei (young colonies) thousands of young bees within a few days, a strong colony should soon result. More than one frame of brood should not be given at a time, because the bees can not care for more: the cells of the frame of brood must all be capped, as the young bees of the nuclei can not do this, not as yet flying out. A strange bee on the frame of brood to be given might kill the queen."

My idea is that one might follow this method when both swarming is to be prevented and increase made, by working an apiary in series of 10 or 12—i. e., for every unit of such number, dequeen one of the most vigorous colonies and proceed as stated. It seems to me that the mode of procedure first given is worthy of wide discussion, and, so far as I am concerned, I could not see it too widely commented upon, criticized, supplemented, bettered, or more especially adapted for our country.

My home is 12 miles south of the center of the New York and Pennsylvania State line. With the coming season my inclination is to give this a thorough trial. I wish, on behalf of same, to be as well posted as possible. The only question in my mind now is whether to give the colonies from which frames of capped brood are taken, frames with but starters or full foundation. I notice that with "shook swarming" some advocate giving only starters.

I have naturally compared the method re-



DIRECTOR J. E. CRANE.

ferred to with "shook swarming," as yet, though, I have not practised either.

It seems to me now a question whether the German method offers anything superior to "shook swarming." The main point about swarm prevention seems to me, is to



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give the bees so much to do, that, as it were, the swarming impulse is aborted. And in "shook swarming" this is done by a depletion of the brood-chamber.

According to the "Bible Bee-Book," and Lyon's bee-book, on "shook swarming," it is best to let the colony to be shaken, have only narrow strips or starters of foundation. And this, to my mind, indicates the degree of depletion necessary, in this country, at least, for the purpose intended.

Now, it seems to me, that the German method does not by far involve as much depletion to most of the colonies that are not to swarm. Suppose, as stated, the German plan is undertaken in units of 10 colonies; the one which is to be dequeened and divided up into colonies is, of course, depleted. But how about the other 9? Suppose there would be 8 queen-cells started; that would afford 8 nuclei. Now, as each nucleus can take only one frame of brood at a time, there would be 9 colonies to supply each (all but one) one frame of capped brood; it would take probably 8 days for the same to hatch, and then another frame could be taken from each of the colonies. But would not such depletion be too slow (require or extend over more time than available) to prevent swarming?

Compare the depletion in "shook swarming"—leaving to the bees at once starters of foundation *only*—with this German method, wherein only one frame of brood is to be taken away. I have 10-frame hives; this would leave each colony with 9 frames of comb, with honey, brood and bees.

Does it not look as if the German method at best, in this country—i. e., considered climatically, latitudinally, and generally idiosyncrally—might prove a failure?

I wish to be enabled to size up the matter as thoroughly as possible.

Ulster, Pa., Dec. 9. CHAS. REYNOLDERS.

It is hardly wise for one to commend or condemn any plan without first committing it to the bees to see how it may pan out. Besides, what may be very good for one bee-keeper may not always be good for another. Yet for the sake of bringing out some general principles, it may be worth while to give a close discussion to this matter.

The heading of the chapter to which particular attention is called is: "Excessive Swarming Must Be Prevented." If the only object be to prevent *excessive* swarming, then a much simpler and easier plan is the common one that has been given so many times in these columns: Set the swarm on the old stand with the old colony close beside it; a week later move the old colony to a new stand.

Your desire, however, is doubtless to use the plan to prevent swarming altogether; and so to learn about any possible danger-points.

The best colony is to be dequeened when at the highest point of development. The author thinks that would be about the end of May, and you think it would be the end of April in your latitude. You are in latitude 42 degrees, the same as the latitude here. If bees were forced to start queen-cells here in April, the queens would generally be worthless. Of course, some seasons are earlier than others, but April would always be too early, and often the first of June would be too early for *good* queens. At any rate, wait till the bees begin naturally to start queen-cells preparatory to swarming.

You are planning on one frame of brood for each nucleus, and then to give to the nuclei frames of brood without any bees. That will be likely to result in more or less chilled brood, for the nuclei will have few bees, and you will not find it easy to have no unsealed brood in the frames given. It will help matters if the brood be kept for a week or so over an excluder on a

strong colony. Even so there may be danger to the sealed brood if there be too few bees to cover it.

Taking brood from the strong colonies is expected to prevent their swarming. This is very unreliable unless all but one frame of brood be taken. Sometimes taking a single frame will prevent swarming; sometimes taking half the brood will not seem to make a particle of difference. So you can place no certain dependence upon it.

I do not understand how queens in nuclei can be "tested as to their value." To test a queen as to its value is to find out about its prolificness as a layer, or the amount of honey stored by its worker progeny. You could not tell much about either of these in a nucleus.

When you take away a single frame of brood from a strong colony, the case is quite different from a shaken swarm. The latter is much like a natural swarm, and much of the comb built will be worker-comb. When only a single comb is taken, if the frames given them in return be not entirely filled with foundation, the bees will be almost certain to build a large proportion of drone-comb.

There is a very wide difference be-

tween the amount of depletion that takes place in shake-swarming, as compared with taking away one frame at a time. Take away all the brood, or all but one, and you have put the colony in much the same condition as a natural swarm, no matter whether you use starters or full sheets of foundation. When you take away only one brood the depletion is so little that it will generally have no effect in the way of prevention of swarming. In reply you may say that if one brood be taken away each week for 9 weeks, the total depletion will be just as much as if the whole 9 brood had been taken at one time. That's true, but the result will not be the same. If you should go without food or drink for 100 days, it would probably end your career as a bee-keeper. Instead of that, suppose you abstain for 200 days the half of each day, say from 6 each evening to 6 the next morning. The abstinence of half a day each day for 200 days would make a total abstinence of 100 days; but the result would be quite different from taking the abstinence all at one dose. Just the same with the swarming. Taking away one brood each week would not prevent swarming one time in 50.

C. C. M.

## MISCELLANEOUS



## NEWS ITEMS

**Prof. A. J. Cook**, of California, so well known to the older bee-keepers everywhere, has recently been appointed Horticultural Commissioner for the State of California, by Gov. Johnson. This is indeed a magnificent appointment, and things horticultural in California may soon be expected to go forward by leaps and bounds. And, then, with Prof. Cook's bee-keeping proclivities, we may in the near future see the horticulturists of California holding joint conventions with bee-keepers. When these two allied interests once pull together we may expect to see such an advance in both fruit-growing and honey-production as this world has not yet dreamed of. We hope that the great State of California may be the leader in such united effort.

We hardly know which deserves the more congratulation, Prof. Cook upon his appointment, or the State of California upon its good fortune in securing the services of such an experienced, loyal and worthy Horticultural Commissioner as Prof. Cook. Perhaps it is equal. At any rate, we wish Prof. Cook unbounded success in his new position, and California great progress along every line of work which Prof. Cook directs.

### Association of Apiary Inspectors.

We have received the following which will surely be of interest to inspectors of apiaries the country over:

On Dec. 30, 1911, in Washington, D. C., there was formed a temporary organization of the Association of Apiary Inspectors of the United States and Canada, with a view to increasing the efficiency of apiary inspection, to bring about a greater uniformity

in the laws, and more active co-operation between the various inspectors.

A committee on permanent organization was formed to report at a meeting to be held in Cleveland, Ohio, in December, 1912, in connection with the meeting of the Association of Economic Entomologists. Prof. Wilmon Newell, of College Station, Tex., is chairman of this committee.

A standing committee was also appointed on Legislation, for the purpose of drawing up a law incorporating the necessary and desirable features. The undersigned was appointed chairman of this committee.

All apiary inspectors and official entomologists of the United States and Canada, who are interested in the advancement of apiculture, are invited and urged to join in this movement for an increased efficiency in the fight against the brood-diseases. For the present it was decided to levy an assessment, \$1.00 per year, on each member, to pay necessary expenses. It is hoped that arrangement may later be perfected for affiliation with the Association of Economic Entomologists. Requests for membership and the assessment may be sent to the undersigned.

Respectfully,

E. F. PHILLIPS,  
Bureau of Entomology, Washington, D. C.  
*Secretary.*

DR. BURTON N. GATES,  
Amherst, Mass., *Chairman.*

We hope that every inspector of apiaries in the United States and Canada will unite with the new organization. Its efforts can but result in good to the whole bee-keeping industry. Let every inspector send at once his annual dues of \$1.00 to Secretary Phillips, and get in line for more advanced and efficient apiary inspection.

**Growing Sweet Clover.**—We have no doubt that if more bee-keepers knew how to grow sweet clover they would be sowing acres and acres of the seed. A very good way to learn is to read how other people have succeeded. In a

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recent issue of *Gleanings in Bee Culture* we find the following from two successful growers of sweet clover—one in Iowa, and the other in New York:

## AN IOWA EXPERIENCE.

**PLAN No. 1.**—Sweet clover must be sown on land well supplied with humus or lime, or both, as it will not grow well on ground badly worn, nor in soil that is strongly acid or sour. In order to start sweet clover on such land, plow the ground to a fair depth; pulverize, and top-dress heavily with manure. Then sow the seed and harrow in the manure and seed together. A light application of lime would be of great benefit; but a good catch can be secured without the lime.

**PLAN No. 2.**—Another way to secure a stand is to plow a field that has been seeded for at least two seasons to timothy, clover, or both. While it is better to plow in the fall, the spring will do. Before seeding work the ground just as you would for corn; sow the seed, and cover, using a common harrow, and your success will be sure. Many have old hog-pastures that are overgrown with bluegrass. Those fields, when broken up, make very excellent ground for sweet clover. Sow one-half of such fields to sweet clover, and note what nice, green, succulent feed the pigs will have all summer long, when the bluegrass is dead and of no use to pigs.

**PLAN No. 3.**—Any field that has grown 50 or 60 bushels of corn an acre can be sown to Early Champion oats, barley or wheat, and still make possible a stand of clover. Sow  $1\frac{1}{2}$  bushels of oats, and  $\frac{1}{4}$  less of either barley or wheat, taking care that the ground is fairly smooth. This nurse crop will work well, provided there is not a severe drouth to spoil the clover. This seldom happens in the corn belt. The clover should be well up in the grain at harvest time. If the grain is cut high from the ground it will be better for the clover. Often a fine cutting of hay will be secured later in the fall, about Oct. 1st, or a fine pasture for stock. There is much to recommend this plan.

**COMMENTS.**—The seed can be sown any time between early spring and the last week of July; but it makes such a strong growth the first summer, seeding should be done when convenient in April or May, using 20 pounds of hulled seed per acre. The seed should be hulled. If unhulled seed is sown, about one-third of it fails to germinate the first season, and doesn't come up until another year. Then, again, the unhulled seed often results in uneven growth, too thin in some parts of the field and fair in others. The sower should bear in mind that proper elements of the soil are necessary at first, because of the lack of sweet clover bacteria in the fields. Just the right conditions are required to start the nodules on the sweet-clover roots, which, in time, burst and multiply and fill the soil.

Do not make the mistake of trying to grow two or three crops of corn and then sow to sweet clover, as the land has not yet a supply of the bacteria required to grow it. After it has been growing on the land for a few years, and the bacteria are started, you will notice how much better it thrives. Many hundreds, and perhaps thousands, of bushels of this seed have been thrown away because it was not sown on the right kind of ground. The bluff deposits of the Missouri River basin seem to grow sweet clover at once under any conditions, and in all of the States it appears to have much less trouble in getting a stand. Sweet clover succeeds on lands so filled with alkali that nothing else grows well.—FRANK COVERDALE, of Clinton Co., Iowa.

## A NEW YORK EXPERIENCE.

I have never tried to raise a lot of sweet clover, but have always had several small patches around our premises. It has come up almost as quickly and as surely as radish seed, whether I have sown it in the spring, summer, or fall. About Aug. 15 we gathered some seed (stripped it off by hand), some being black and some green. I sowed this where I had had a small patch of early potatoes, first going over the ground several times with a hand cultivator. In a little over a week the ground was all evenly covered with young plants. I doubt whether they will winter; but as the seed was put on fairly thick, I think there will be enough that did not come up to make a stand in the spring. The seed was unhulled, of course, and the white variety. My experience, although on a small scale, is that it has never been praised too highly as a fertilizer of the soil.

About six years ago one of our neighbors gave us a small handful of sweet-clover seed for our flower garden—perhaps a tablespoonful. I sowed it in a shallow trench and covered it with about half an inch of soil. It came up all right and made a rank growth. The next spring, after it bloomed, I dug out the dead roots, spaded it well, and planted a row of sweet peas in the same spot.

We have always had very pretty sweet peas; but these were a marvel—great sturdy stalks, large dark-green leaves, and the bloom was wonderful—the finest sweet peas I ever saw. I puzzled my head trying to find out what I had done to those peas to get such fine plants; then after a while I "tumbled." It was the sweet clover of the year before.—GEO. SHIBER, of Cattaraugus Co., N. Y.

## Our Government and Bee-Keeping.

On page 8 we referred to some good work done by the Legislative Committee of the National Bee-Keepers' Association. As a partial result the Secretary of Agriculture has sent out the following to the various publications:

### FOUL BROOD.

The census of 1910 shows a decrease of almost 800,000 colonies of bees on the farms of the United States. There is also a considerable decrease in the number of farms reporting bees. Since bee-keeping is one of the important and profitable minor branches of agriculture, this decrease among farmer bee-keepers is unfortunate. No returns are available for bee-keepers in towns and cities.

Bee-keeping is fast becoming the business of the specialist, and the number of men who devote their entire attention to the business is rapidly increasing. However, there is no reason why the average farmer can not keep a few colonies of bees to supply honey for home consumption, with perhaps some surplus for sale in good years.

The United States Department of Agriculture attributes most of the reported decrease to the brood-diseases of bees, which are now found widely distributed in the United States. The Department has knowledge of these diseases in about 20 percent of all the counties in the United States. Where disease exists bee-keepers often lose colonies, and attribute their loss to some other cause. Because of these facts, the Department advises persons interested in bees to inform themselves concerning these diseases. It is quite possible to keep bees with profit with disease prevalent in the neighborhood, provided the bee-keeper knows how to treat the disease. Farmers' Bulletin No. 442, "The Treatment of Bee-Diseases," will be sent free on request to the Secretary of Agriculture, Washington, D. C.

We hope that the foregoing announcement will be widely published, for it can only result in benefit to bee-culture. If any of our readers have not had a copy of Farmers' Bulletin No. 442, we hope they will send for it at once. It can be had for simply the asking.

**Grafting-Wax.**—As there are doubtless many among our readers who have occasion to use grafting-wax, we take the following from that unusually good farm weekly, the Rural New-Yorker:

Will you give me a recipe for making grafting-wax? What I bought, when the hot weather came, ran off, leaving the graft open, letting the air in. J. S. M.

A standard grafting-wax calls for rosin, 4 parts by weight; beeswax, 2 parts by weight, tallow, rendered, one part by weight. Melt all carefully together, but do not let it boil. Pour the hot liquid quickly in a pail of cold water, and with greased hands flatten the wax under the water so that it will cool evenly. Let it get cold and tough, but not brittle; then remove from the water and pull like taffy until it is alike ductile and fine in grain. If lumpy remelt and pull again. Make into balls or small skeins and put away in a cool place. When wanted soften with heat of hand or in hot water.

This is an excellent wax for all purposes; it may be made softer by using a little more tallow, or tougher by a rather larger proportion of beeswax.

**The Banat Bees.**—As we have had several enquiries about the Banat bees, we have requested Mr. Grant Anderson, of Texas, who is familiar with them, to tell of their important points:

For the benefit of those who have never had the pleasure of handling or seeing the Banat bees, I will give a description of them in the columns of the "old reliable" American Bee Journal.

The Banat bees are natives of Hungary, and are neighbors to the famous Carniolan bees, which you know come from Carniola, Austria.

The Banat bees are classed by some men as cousins to the Carniolan bees, which they very much resemble.

In color the Banat bees are a dark gray, somewhat darker than the Carniolan, and have no trace of yellow on them; while the Carniolan may show some copper bands and yet be pure.

In size the Banat bees are a trifle smaller than the Italians, and a little more pointed at the tail.

Their actions are the same as the Carniolans, being very quiet and gentle under manipulation, and go on with their work while you handle the combs.

The queens are very gentle, and good, prolific layers.

In color the queens range from an orange to a jet black, and it is a common thing to see light and dark queens hatch from cells grafted with the larva of one queen.

The yellow queens produce workers a shade lighter than do the dark queens, and it is reasonable to believe that a golden bee can be produced by careful selection in breeding for color.

The Banats are white cappers, and good honey-gatherers. They are not bad swarmers, and gather but little propolis. They defend their hives well.

As breeders the Banats are about the same as the Italians, and let up on their breeding when the honey-flow lets up.

The Banats are good all-purpose bees.

GRANT ANDERSON.

**"First Lessons in Bee-Keeping."**—In the course of a short review of this book the British Bee Journal says:

The present edition has been revised by Mr. C. P. Dadant, one of the most successful honey-producers and the reviser of the last edition of Langstroth's book, so this is a guarantee that the work is well done. The book before us is principally intended for beginners; it contains the foundation principles of bee-keeping, and is not meant to take the place of the larger works on the subject. Progress in bee-keeping has been so great during the last 30 years that we are not surprised to find that much which appeared in the earlier editions has had to be left out, new matter taking its place.

**Iowa Bee-Keepers' Association.**—December 29, 1911, the Tri-State Bee-Keepers' Association met in Sioux City and at this meeting the Iowa delegation organized the Iowa State Bee-Keepers' Association, with W. P. Southworth, of Salix, Iowa, as president; C. L. Penny, of Le Mars, Iowa, secretary and treasurer. Three vice-presidents were chosen to boost the organization in their districts—Frank C. Pellett, of Atlantic; Frank Coverdale, of Delmar; and J. L. Strong, of Clarinda.

As a committee on program for the next meeting, the following were named: C. L. Penny, J. B. Espy, R. A. Morgan.

Iowa needs the Association, and its organizers expect the enthusiastic co-operation of every bee-keeper in the State, and each one is urged to send in his name and membership dues at once to the secretary, C. L. Penny, of Le Mars, Iowa.

To be in harmony with the new Constitution of the National Bee-Keepers' Association, the membership dues were fixed at \$1.50 per year. Some may say



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that their dues are paid up in the National, and, therefore, they will delay sending their dues to the State Association; please do not do this, but send in your dues at once, and your membership in the National will be extended.

The new Association needs funds with which to begin work at once. The first business will be to arrange for a big convention to be held at a time that will be most convenient for the largest number of bee-keepers, when the organization will be perfected and immediate steps taken to secure legislation to assist in checking the spread of bee-diseases in the State.

No State in the Union can produce better honey than Iowa, and by mutual assistance the bee-keepers can greatly increase their yields, and improve market conditions.

Let every one interested in bee-culture join the big cluster at once by sending in his name and any suggestion that he has to offer. REPORTER.

**The Northern Michigan Bee-Keepers' Association** will hold its next annual meeting at Traverse City, Mich., March 13 and 14, 1912. Whiting Hotel will be the headquarters. Special rates have been arranged for, and also the Hotel's parlor on the second floor has been offered to us for the meetings. A good program will be provided, and we would like to see many new faces. If you are so you can come, better do so. We are sure you will have a pleasant time. IRA D. BARTLETT, Sec.

East Jordan, Mich.

**Ventura Co., Bee-Keepers' Club.**—At a meeting of the Ventura County Bee-Keepers' Club, held at Fillmore, Calif., Jan. 6, 1912, it was unanimously voted to join in a body the California State Bee-Keepers' Association.

Inspector Allen was upheld in the matter of quarantining all queens and bees from outside of the county on account of bee-diseases. All queens and bees shipped into Ventura county must bear an inspector's certificate, or they will be destroyed when they arrive.

E. F. McDONALD, Sec.  
Santa Paula, Calif.

**Northern California Convention.**—The Northern California Bee-Keepers' Association held its 6th annual meeting at Sacramento, Calif., on Wednesday and Thursday, Dec. 27 and 28, 1911. The sessions were fairly well attended, and had a good representation from all parts of the State, the north and central parts especially.

The topic, "The Value of Organization," was thoroughly discussed, and a committee was appointed to meet with a committee from the California State Bee-Keepers' Association from Los Angeles, and see if it could not be arranged to have one State organization.

Both organizations were requested to make some alterations in their constitutions, and report at the next meeting for final hearing.

A State Inspector was agreed upon, and the necessary steps taken to have such an office created; and all societies

were urged to co-operate and prepare a bill to present to the Legislature some time this session.

Prof. A. J. Cook was present, and gave an hour's talk, and one and all desired that he go on longer, as his discourse was very interesting, and the only regret was that there were not more present to enjoy the important facts that he brought out.

C. Hauser was elected president, L. D. Walker, vice-president; Win Gear, of Vorden, secretary and treasurer; and Mrs. L. D. Walker and Harry Hill directors.

The meeting proved a benefit to all present, and the other counties in the State were urged to organize similar associations, then to have inspectors appointed, and all to agree upon the State Inspectors' Bill.

J. C. FROHLIGER.  
Berkeley, Calif., Dec. 20.

**The National Association.**—Finally we have something of great interest to present to our readers concerning the proposed work of the National Bee-Keepers' Association under its new Constitution, adopted last November, and as interpreted by the Board of Directors elected at the same time.

As announced in last month's American Bee Journal, the Board met, and the following is a condensed report of the work they expect to undertake for the members of the National Association during 1912, as reported by Secretary Tyrrell, who was also elected as secretary of the Board for the Detroit meeting:

## What the National Bee-Keepers' Association Will Do this Year

The meeting of the Board of Directors held in Detroit, Mich., Jan. 23, 1912, was probably the most important of any Board meeting held in the history of the Association. Plans of re-organization had to be considered, as well as just what the Association would and should do for its members.

### HONEY-CROP REPORTS.

One of the most important needs of the bee-keepers, as it appeared to the Directors, was an accurate knowledge of crop conditions. To get this, it was decided to send out crop reports early in the season to every member, and from the information so obtained, advise the members, either direct or through the bee-papers, as to the conditions.

### PACKAGES FOR HONEY.

The Board also found that the question of honey-packages was an important one. At the present time there is not near the uniformity there should be. No special weight of tin or size of can has been adopted in the past, and many shippers were using a tin entirely too light. Samples of honey-cans were inspected by the Board, with the decision that the Secretary be instructed to make the best possible arrangements for furnishing the members with the tin honey-packages the coming season. The orders will be

handled directly through the Association office, and will not be sent by the member to the can manufacturers as in the past.

In discussing the question of packages for comb honey, and realizing that there are a number of different kinds and shapes in the market, it was thought best that in order to promote uniformity of a comb-honey package the Association should take steps to secure for its members, at the lowest possible prices, the double-tier 24-pound shipping-case, which was adopted by the Association at its last convention.

These cases could be furnished according to specifications so that every member buying through the National would be using exactly the same case as every other member. In order to induce a more general adoption, it was thought advisable to furnish them at a low price.

The Secretary was also instructed to investigate paper shipping-cases, as well as glass packages. This action was not taken with an idea of getting into the bee-supply business, but to promote the using of uniform packages by the members, which, then, will simplify the question of marketing, and eventually raise the price the bee-keepers can obtain for their honey.

### MARKETING HONEY.

The question of marketing honey was thoroughly considered, and many plans presented. The one finally decided upon was that for the coming season the National Association should act in the capacity of a broker for its members where desired. It is not expected or desired that all members will ship their honey through the Association, but realizing that many are not in touch with the best markets, it was thought that no better move could be made than to assist these members in obtaining the proper returns for their honey crop. To do this, selling agencies will be established in several of the larger cities, and the sales will be directed through the Association. A member having honey to sell could first get instructions from the Secretary, who is expected to keep in close touch with market conditions, take into consideration the freight-rates, and then give the member full instructions as to shipment. The Association does not intend to buy and sell honey, but simply to assist the producers in finding the best possible market.

### ORGANIZING LOCAL BRANCHES.

The promotion of local branches will be encouraged, and wherever a local branch desires to get out a booklet, such as has been used by the Michigan Association, assistance will be given by the National Association. This feature will be encouraged. The advertising of this booklet will be cared for by the National, but will probably be confined to the four bee-papers on the start.

E. B. TYRRELL, Sec.  
230 Woodland Ave., Detroit, Mich.

We hope that every member of the Association who has not as yet paid his dues for 1912, either direct or through his local organization or branch, will do so at once.

Perhaps it will be well for us to give



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here a copy of the new Constitution, as adopted in November, 1911, and which went into effect Jan. 1, 1912:

## Constitution of the National Bee-Keepers' Association

### ARTICLE I.—NAME.

This organization shall be known as the National Bee-Keepers' Association.

### ARTICLE II.—OBJECT.

The object of this Association shall be to aid its members in the business of bee-keeping; to help in the sale of their honey and beeswax, and to promote the interest of bee-keepers in any other direction decided upon by the Board of Directors.

### ARTICLE III.—PLAN OF ORGANIZATION.

This organization shall consist of one central organization with its various branches. These branches may be in any locality where 25 or more members of the National Association decide to form a branch.

### ARTICLE IV.—MEMBERSHIP.

SECTION 1.—Membership shall be extended to any person interested in bee-keeping, and who is in accord with the purposes and aims of this Association. The annual membership shall be \$1.50; one-third, or 50 cents, of which shall go into the fund of the local treasury where such a branch is maintained.

SEC. 2.—Whenever a local bee-keepers' association shall decide to unite with this Association, it will be received upon the payment by the local secretary of one dollar (\$1.00) per member per annum to the Secretary; but all active members of such local association must become members in order to take advantage of this provision.

SEC. 3.—Membership in the National Association will begin Jan. 1st each year. Those joining previous to Sept. 1st will be credited paid to Jan. 1st following. Those uniting after Sept. 1st will be credited paid to one year from Jan. 1st following.

### ARTICLE V.—NATIONAL MEETING.

SECTION 1.—The National meeting shall consist of delegates duly elected by the various branches. These meetings shall occur during the month of February, the exact date and place to be decided by the Board of Directors.

SEC. 2.—Each branch shall be entitled to elect one delegate to attend the National meeting, who shall present proper credentials, and, if correct, such delegate shall be entitled to one vote for every 50 members or fraction thereof in his local branch.

SEC. 3.—At the annual meeting the delegates may hold one or more sessions open to bee-keepers for the consideration of such special or general topics as the Board of Directors may decide upon.

### ARTICLE VI.—OFFICERS AND DUTIES.

SECTION 1.—The officers of this Association shall be a President, Vice-President, Secretary, and Treasurer-General Manager. These officers shall be elected at each annual meeting of delegates and serve one year, or until

their successors are elected and qualified.

SEC. 2.—The President shall preside at each annual meeting of delegates, and at any special meetings which may be called. He shall also preside at all meetings of Directors, and perform any other duties which may devolve upon the presiding officer.

SEC. 3.—The Vice-President shall perform the President's duties in his absence.

SEC. 4.—The Secretary shall keep a record of the proceedings of the annual meeting; maintain a list of all members of the Association, with their addresses; collect, receipt and pay over to the Treasurer-General Manager all dues and membership fees; keep a proper record of all business transactions, and perform such other duties as may be required of him by the Association or Directors.

SEC. 5.—The Treasurer-General Manager shall care for the funds of the Association, depositing the same in such depository as may be approved by the Directors. He shall also pay such orders coming to him as may bear the signature of the one authorized by the Directors to draw orders.

### ARTICLE VII.—BOARD OF DIRECTORS AND THEIR DUTIES.

SECTION 1.—At each annual meeting of delegates, in addition to the officers named in Article VI., there shall be elected a Board of five Directors. (For the year 1912, the officers and Board of Directors shall be elected at the regular ballot election of the Association, to serve until their successors are elected by a meeting of delegates.)

SEC. 2.—These Directors shall care for the business of the Association between the annual meetings. They shall have full supervision of the work of the officers elected, and shall have power to remove from office any officer or director not acting in accordance with the Constitution and By-Laws of the Association.

SEC. 3.—The Board of Directors shall decide upon the compensation of the various officers, authorizing the amounts so decided upon to be paid from the general treasury.

SEC. 4.—The Board of Directors shall have power to elect a General Organizer whose duty it shall be to promote the organization of branches throughout the United States and Canada. They shall also decide as to his compensation.

### ARTICLE VIII.—ORGANIZATION OF BRANCHES.

SECTION 1.—Local branches may be established in any locality, but not interfering with a branch already established, whenever the membership in that locality so desires.

SEC. 2.—A local branch shall consist of not less than 25 members.

SEC. 3.—A local bee-keepers' association already established may become a branch by a majority vote of its members, either by mail or at a meeting, and accepting the Constitution and By-Laws of this Association.

### ARTICLE IX.—AMENDMENTS.

SECTION 1.—This Constitution may be amended at any regular meeting of

delegates by a two-thirds vote of the delegates present and voting, provided that at least 90 days' notice of the proposed amendment be given to the secretaries of the branches.

### ARTICLE X.—RULES OF ORDER.

Robert's Rules of Order shall govern all meetings of both the National and branch organizations.

**"Advanced Bee-Culture."**—A new edition of this book, by the late W. Z. Hutchinson, of Michigan, is one of the practical and up-to-date books for the specialist bee-keeper ever written. Its 200 pages touch on nearly 500 subjects pertinent to modern bee-keeping, and all are discussed authoritatively. It has many fine illustrations. It is bound in attractive and substantial cloth, with a clover design in natural colors on its cover. All together it is a volume whose appearance and unquestionable worth justly entitles it to a place in the library of every bee-keeper. No more important work on the subject has appeared. It is mailed for only \$1.00, or with the American Bee Journal one year—both for \$1.80. Send all orders to the office of the American Bee Journal, 117 North Jefferson Street, Chicago, Ill.

**"Bee-Keeping by 20th Century Methods ; or J. E. Hand's Method of Controlling Swarms,"** is the title of a new booklet just issued from the press of Gleanings in Bee Culture. While it is written particularly to describe Mr. Hand's methods of controlling swarms by means of his new patented bottom-board, the booklet contains a great deal of other valuable matter, among which is the following: The hive to adopt; re-queening; American foul brood; wintering bees; out-apiaries; feeding and feeders; section honey; pure comb honey; conveniences in the apiary; producing a fancy article of extracted honey; swarm prevention by re-queening; increasing colonies, etc. The price of this booklet is 50 cents postpaid, but we club it with the American Bee Journal for a year—both for \$1.30. Address all orders to the American Bee Journal, 117 North Jefferson St., Chicago, Ill.

**"The A B C of Potato Culture"** is the name of a book of nearly 400 pages, with 40 illustrations, and devoted entirely to the growing of potatoes. It is written by T. B. Terry and A. I. Root, and tells how to grow successfully one of the greatest money-making crops. In fact, a careful study of this potato-book will help you in growing almost any kind of farm crop. Every farmer, whether large or small, ought to have a copy of it. The postpaid price of this book, bound in paper, is 57 cents; bound in cloth, 85 cents. We club the paper-bound edition with the American Bee Journal for one year—both for \$1.40; or the cloth-bound book with the American Bee Journal one year—both for \$1.60. Address all orders to the office of the American Bee Journal.

## BEE-KEEPING FOR WOMEN

Conducted by Miss EMMA M. WILSON, Marengo, Ill.

### Bees Wouldn't Sting Her

If it be desired to learn how many errors a newspaper reporter can pack into a given space, just start him to writing about bees. He will range all the way from things that are everyday affairs to a bee-keeper, but given as wonders, up to things that are beyond belief. The following newspaper clipping about Miss Susan Howard (who is probably Mrs. Susan F. Howard) is a fair sample:

**BOSTON.**—More than 100 pounds of honey were removed from among the hives of swarms of wide-awake bees without disturbing them or inciting them to sting, by Miss Susan Howard, of Greenwood, at the apiary of Harry Munroe, in South Lynnfield. Miss Howard, who is recognized as Wakefield's leading bee-expert, was summoned only after Munroe and dozens of other South Lynnfield youths were driven away by the bees after attempts to get the honey.

When the Wakefield woman approached the hives, and with her deft hands loosened the combs, the bees looked at her motionless, as if under a spell. Bees that were on the combs flew out of the way with as much obedience as a naughty school-boy leaving the room at his teacher's command. Miss Howard claimed she hoodwinked the bees by psychology. That is, she attracted their attention to rings on her fingers. They were so fascinated by the rings that they did not seem to mind the loss of the honey.

Miss Howard holds office in the National Association of Bee-Keepers. She is 45 years old, has an independent fortune, and devotes practically her entire time to bee-study.

### Honey In Europe—Honey-Bread

We are indebted to S. R. Stewart for the following clipping from the Christian Herald, which is certainly doing a Christian work in commending so good a thing to its large circle of readers:

In Europe, where the food value of honey seems to be much better understood than in the United States, enormous quantities are used. Of late years we seem to be waking to a realization of the value of honey as a wholesome and delicious article of food, and also as to its preservative qualities. Cakes and sweet-breads made with sugar soon become dry and crumbly, and to get the good of them must be eaten when fresh; but where they are made up with honey, they seem to retain their moist freshness indefinitely. In France, honey-bread a year or 18 months old is preferred to that just made. They say: "It has ripened." It is the preservative, or rather the unchanging, quality of honey that makes it so popular with the best confectioners.

### Mrs. Maria Lundgren—A Swedish Sister Bee-Keeper

A woman bee-keeper in the fullest sense of the words, is the one whose likeness is given herewith. Mrs. Lundgren, who is 32 years old (together with her husband, considering the Swedish conditions, has conducted a pretty fair bee-yard in the vicinity of Stockholm, Sweden. Her idea in the care of bees has always been to have a few colonies, but to give them good care. During her husband's sickness in 1906, together with the house-keeping, she had the whole charge of the bee-yard with queen-rearing, and superintended a smaller bee-supply shop with about a dozen employees.

Mrs. Lundgren is well known among the bee-keepers in Sweden, and when her husband is out on his business tours in the

country, this question is always asked: "Well, where is Mrs. Lundgren?"

The home bee-yard during the summer months is visited by hundreds of beginners in the business, and almost always she is the one from whom they get their first knowledge of the care of bees. It is not only at home where she helps the ignorant, but she tours with her husband and lectures at the professional meetings of bee-keepers. Often she contributes an article to her husband's bee-paper, "Bigarden," of which paper she often has the whole responsibility.

By the older bee-keepers Mrs. Lundgren is called "The Queen." Nevertheless, working as she does for this profession in the



MRS. MARIA LUNDGREN.

Far North, she does not neglect her children and her home, where she is as "busy as a bee." Not of a "stinging" nature, she gains everybody's confidence by her gentle and attractive ways. BEE-KEEPER.

We are proud to know of this bee-keeping sister in far-away Sweden. The probability is that she is the only woman in the world on whose shoulders at times falls the entire responsibility of a bee-paper. More the pity that the paper is published in an unknown tongue.

### Value of Honey in Baking, Etc.

Many people who do not keep bees, and a few that do, consider honey a luxury, when, if freely used, it will save enough of either butter or sugar to much more than equal its cost. For example: Have a pitcher of extracted honey at hand, and as each cake is taken from the griddle, pour honey over it and fold like an omelet. The result will be cakes that will be "simply delicious" without the use of butter—and every housewife knows that hot-cakes call for a great deal of butter, when that is used.

Honey has greater sweetening power than sugar, and is less needed. In a sponge-cake that would call for a cupful of sugar,  $\frac{3}{4}$  of a cupful of honey is sufficient. To make such a cake, beat  $\frac{3}{4}$  of a cupful of honey with the yolks of 3 eggs; beat in one cupful of flour, a little at a time, then add 4 tablespoonfuls of hot water, and lastly fold in the stiffly beaten whites of the 3 eggs, with any flavoring desired.

In general use of cake or cooky recipes, it is safe to allow 8 tablespoonfuls of honey

and 2 tablespoonfuls of sugar to each cup of flour called for in the recipe.

One of the most delicious of cake fillings is made by cooking half a cupful of honey and an equal amount of sugar with 2 tablespoonfuls of water until it "threads," and then beating it into the stiffly beaten white of one egg. Continue the beating until the mixture is cool, and like heavy cream. This makes a fine filling for sweet sandwiches, as well as for layer cakes.

To make a fine preserve, peel and quarter tart apples, and to each pound of prepared apple add a pound of honey and a few pieces of ginger-root. Arrange in layers in a jar and let stand 72 hours. After that, simmer very slowly until the apples are transparent and the syrup thick. If the apples reach the transparent stage before the syrup is thick enough, take them out and cook the syrup until of the proper consistency, and of a bright, rich golden color. Pears, quinces, and other solid fruits may be prepared in the same way, and are superior to those preserved with sugar.

Honey may be substituted for sugar in preparing pickles, and the change will be an improvement. In fact, honey-vinegar is the purest and has the best keeping qualities of any vinegar made.

The foregoing, by Eva Ryman-Gailard, is taken from *Suburban Life*. It is a fine thing to have such matter placed before the readers of a popular publication, but a caution is needed lest too much be claimed for honey. Honey is more wholesome than sugar, especially if sugar be used in large quantity. Cake, cookies, etc., will keep very much longer when honey is used in them than when sugar is used. Either one of these qualities is enough to give honey a great preference. In perhaps most families it would be real economy to use honey instead of sugar in baking cake, even if honey should cost twice as much as sugar, and even if honey should be considered no more wholesome than sugar. This would not be true if all cakes were eaten as fast as made. But this is not the case. Cake in which sugar is used is at its best when first made, and cake which is stale is likely to stand around until it is thrown away. This, even in families that are fond of cake and see no objection to eating it. There are, however, many families which do not consider cake a very wholesome article of food, and the number of such families is constantly increasing. But they can not get away from the idea that cake should be constantly on hand "in case company comes." And to put stale cake before company—perish the thought! So cake must constantly be made in order to be constantly fresh, and then as constantly—thrown away. In such families it might be economy to pay four prices for honey.

So it is not necessary, nor is it wise, to claim that "honey has greater sweetening power than sugar, and less is needed." Honey may seem to the taste sweeter than sugar, perhaps because one more promptly gets the sweet taste from honey than from sugar, but it is pretty certainly an error to think that a pound of honey contains more sweetening power than a pound of sugar. It has been said that a pound of sugar will go as far as a pound and a half of honey, and some have made the difference greater. It would be of interest if some sister who has positive knowledge upon the point would tell us just what is the sweetening power of honey as compared with sugar. Indeed, such knowledge would not be despised if it should come—in a proper spirit of respect—from one of the brethren.



## BEE-KEEPING IN DIXIE-

Conducted by J. J. WILDER, Cordele, Ga.

### Apiarian Opportunities

As I go to and fro over the country I look out through the car windows with eager eyes and view it from a standpoint of an energetic bee-keeper. Then I drop my eyes, and from my enterprising spirit comes, "Oh! the opportunities for our industry!" Thousands of hustling men could be in the field of apiculture, not only making honest livings, and increasing their business, but money besides.

Truly, the golden opportunities of our lovable industry are shining brighter than ever before, and it is up to us to embrace them.

Viewing the situation of our industry at present, I can only say that we have made progress, but with the great opportunities that are within our reach, I am proud of the future of bee-keeping.

### Making and Keeping Good Resolutions

It is rather late for New Year's resolutions, but as the bee-keepers' busy season is near they may be more appropriate. I wish to state a resolution, or whatever you may call it, which the writer made once.

When I was about 14 years old I attended a country-cottage prayer-meeting, and the leader read the 6th chapter of St. Matthew, in which these words of the Savior are recorded, in the 33d verse: "But seek ye first the kingdom of God and his righteousness, and all these things shall be added unto you." Of course, from the previous verses I knew he meant temporal things.

After reading the chapter we knelt in prayer, and with these words fixed in my memory, I prayed about thus, secretly:

"Lord, I have loved you ever since I can remember, and I am a poor orphan boy, and I need clothes, money, education, and everything this world can give me, and in this verse you have promised it all to me. And, Lord, if you are going to fulfill this promise in my case, you had better go about it at once, for I am right now seeking your kingdom and righteousness, and it shall be my last effort on my dying bed."

Well, that resolution has been kept, and will be kept, and has been the foremost thing in my life.

But, what about the Lord's part of it? About 20 of us country boys left home about the same time, and went into a wicked city to live. All of us were about 21 years old. But the rest of the boys had a common school education, such as they could obtain out in the country in those days, but I had none, not even enough to write my name; and, too, the rest of the boys had far more sense than I had, and I well knew it, but somehow they had too much sense, or not enough of the right kind to form or make a resolution and stick to it. Oh, the multiplied

millions of young men today that are lacking in this kind of sense!

Well, ere long there was a way made for me to start to school, and I went 4 years in succession, and at the end I was ready for a business or vocation. My continued prayer was, "Lord, don't let my life be a failure." And I started out with willing hands to work, and have been advancing every since. God be praised for what I have done, whether it be little or much.

The most of the other boys went into wickedness, lived unclean lives, and are in their graves; and those living are my juniors in business life. All because they did not anchor their lives in some precious promise of the Lord's, or resolve and stick to it.

The Lord has fulfilled his promise in my case.

### Wilder's Comb Foundation Fastener for Shallow and Deep Frames

The cut herewith shows the foundation fastener which I use for fastening comb foundation in frames in chunk-honey production. The cut shows the device so plainly that it needs no explanation.

When I first began chunk-honey production in a wholesale way, I used only starters in the shallow frames, but by experimenting I learned that full sheets of comb foundation were far

this was not satisfactory, but the best I could do.

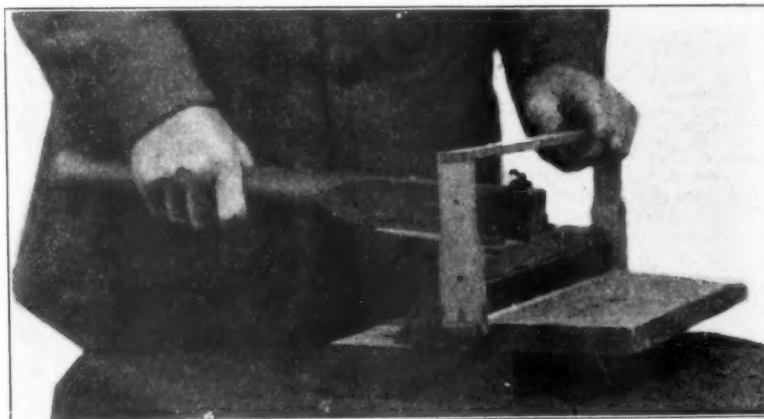
While thinking over this difficult problem one night until nearly day, this device came into my mind like a flash, and the next morning by sun-up I had a rude model made, and was fastening in full sheets of foundation. I soon found that it was a success, and solved this difficult problem, so it has been my only device for this purpose for two seasons, and I have used only full sheets of foundation since.

Our chunk-honey supers are fixed up ready for the bees, at the home apiary, and hauled out on wagons over rough roads, many of them for 30 miles, and are removed from the wagon and placed on the hives, and we rarely ever have any trouble from foundation breaking down.

I wish to mention just two things necessary in operating it in order to give perfect satisfaction: When the point of the lever touches the foundation it mashes it to the bar, and as it passes off the foundation it gives it a smearing mash, and of course the foundation must be warm enough to smear and not break. Then with new frames a piece of firm beeswax must be rubbed heavily over the part of the bar that is to receive the foundation. This fills the pores of the wood and leaves a well-waxed surface, and when the foundation is properly applied with the machine, it adheres firmly to the top-bar. It is not necessary to use any wax on old frames, or frames that have been used once.

The machine is fastened down on a table or work-bench by means of two screws, and it is strong and durable, and you can use as much muscle power on it as you wish, but it is not necessary. It works easily and rapidly.

This is the only device I have ever



WILDER'S COMB FOUNDATION FASTENER FOR SHALLOW AND DEEP FRAMES.

better in these frames when they could be fastened securely, but this was a difficult task, much of the foundation falling out in handling and hauling the supers out, and the bees would break it down by clustering on it heavily; and on account of this no end of dissatisfaction arose even when we used the greatest precaution, fastening it by the melted-wax plan. So I almost abandoned the use of full sheets in the frames, and used mostly starters; but

invented, and give it to the bee-keeping world.

Since the invention many bee-keepers have tried the machine, and it has been well tested and has given perfect satisfaction.

### Granulated Comb Honey

Many of the Dixie bee-keepers seem to have been behind the past season in



# American Bee Journal

removing, packing and shipping their fall crop of honey, and much of it granulated. One bee-keeper writes that he has quite a lot of it in this condition, and wants to know what to do with it.

There are a lot of consumers who prefer it in its granulated form. They have been educated to eat it, and to heat it up if they preferred it in the liquid form, and we bee-keepers should do more towards educating our customers on this point. A label stating why some honey would granulate, and what to do with it in case it should granulate before it was consumed, should be put on every jar, can or pail. This would go far towards relieving the situation.

The majority of the bee-keepers know the sources of honey that are liable to granulate early, and when the bees store it, and they should take it off, pack it, and put it on the market as fast as the bees finish it. But when a bee-keeper is caught late with a lot of it on his hands, already granulated solid, better keep it over until next summer and work it over, and put it on the market while the weather is warm, and it will not granulate so

early, or before it could be consumed, which would surely be the case if it was worked over now. What I mean by "working it over," is to heat it up thoroughly, and if it is chunk honey, remove the comb after it is heated, and sell it as extracted honey, unless it can be heated sufficiently so as not to melt the comb. This can't always be done, or at least it is my experience.

Then another bee-keeper writes wanting to know if he can feed back his granulated honey in early spring. It might be done if the bees were very short of stores, to stay immediate starvation; but it could best be fed back to them later, just before the honey-flow, when the weather was more settled, and it would not be so apt to give them dysentery, and cause dwindling. The granulated honey or cane syrup is bad to bring about this disease, and it is best to keep it away from the bees.

If it was heated up and thinned some by adding water, and fed back later, when it would not be so likely to disease the bees, they might store too much of it in the brood-chamber and crowd the queen, and thereby do a lot of harm.

faction in every case because it was not the same as they (the consumers) got before.

Whether your honey is strong or mild flavored, try to keep your trade supplied with the same grade from one year's end to the other, and always.

## The Cost of Honey-Production

Not long since I had the pleasure of hearing an address by Joe Wing, on "Some Phases of the Live Stock Industry." In telling of his work for the Tariff Board, in determining the cost of wool-production at home and abroad, he made some striking statements. In making a trip through Michigan, interviewing sheep-owners, he did not find one man in 50 who knew what he was making or losing on sheep. Many a one found upon figuring that he was losing, and making up on other farm products. Changes in methods would have remedied this in many cases, but some quit raising sheep when they realized they couldn't do it except at loss.

The instance of the old German grocer who could not tell what his selling cost was, is a parallel case. When questioned further if he knew whether he was making or losing money, he replied:

"Vell, when I starts in business, I rents store-room, house, go in debt for goods, wagon, horses and all. Now I has my own store paid for, my own house, no mortgage, my goods are all paid for; I has money in the bank, and an 80 acre farm. I thinks I am doing pretty well making some moneys. I don't know how much."

These cases cited illustrate the position of many bee-keepers. They are doing well, but they do not know how well. A few points may awaken ideas as to the advantage of more thorough methods.

An apiary in the West, equipped for comb or extracted honey, represents an investment of \$7 or \$8 per colony. Some cost less, some more. Probably the average bee-keeper requires about one dollar's worth of supplies per hive each year. In my own apiary, I find that the work of caring for my bees, preparing supplies and packing the honey, requires about 25 days per 100 colonies.

At this rate, one man should be able to care for 500 or 600 colonies of bees with little hired help. If each of us could get at the cost of producing our crop, and at the same time introduce more systematic methods, we would soon be able to care for probably twice as many bees as we now think possible.

There is one point that is very evident as I become more familiar with Colorado bee-keepers. That is, that management counts for far more than the yield per colony. The specialists who are producing extracted honey and are making the most money, do not average over 50 pounds to the colony, and this at 7 cents per pound is not a very large income per colony.

I have maintained for some time that a comb-honey producer who could average one case of honey per hive, could do well if he had an economical system of management. What we need is to cut out the fuss—fuss and dabble; eliminate the useless motions, and hold the essential principles in the living-room of our minds.

## FAR WESTERN BEE-KEEPING



Conducted by WESLEY FOSTER, Boulder, Colo.

### The Quality of Alfalfa Honey

Mr. A. C. Miller, in the December American Bee Journal, says:

"For several years past, white honeys have been steadily declining in popularity in some markets, and amber or golden honey has come into popular favor. Just what the reason is it may be hard to determine, but I believe that one very potent cause has been the advent of alfalfa honey. It lacks character; it is insipid, and consumers are quick to drop it. A common remark is, that 'it is sugar-fed honey,' and I have heard that from many a person who has never seen a bee magazine or text-book. At any rate, the honey is not what they want. The amber honeys have been found on trial to have a 'real honey taste,' the golden color looks attractive on the plate, and it is becoming popular."

Mr. Miller's castigations of alfalfa honey are the outcome of an observation of conditions in a market where the stronger-flavored honeys have long held sway. The taste of the people who speak so about alfalfa honey has been brought up on strong honeys. No one who is accustomed to alfalfa honey would ever call it tasteless. It is denominated as a beautiful, mild-flavored honey. We see a good many Easterners out here—in fact, the bulk of our population is from the East—and I have heard our alfalfa honey praised so often as being free from that strong, disagreeable twang so common in Eastern honey, that I am surprised to hear this report from Mr. Miller. But, then, there are all kinds of tastes, and I would be pleased to see every one get the honey they like, and lots of it.

The shipping of a mild-flavored, light-colored honey, such as alfalfa, to a

market where strong, twangy, throat-burning honey is wanted, is a mistake, except that the Western honey is searching for a market, and the effort will continually be made to educate the tastes over to alfalfa honey. Regarding amber honey, I agree with Mr. Miller that it is very attractive, as much so as the white.

I do not think that the bee-keepers of the West can afford to blend their honey to the extent the Easterner can. The Westerner will do better to sell his alfalfa honey on its merits of flavor and color, and at the rate it is being shipped into the East I do not see that the consumers are dropping its use as fast as they are taking it up.

There are certain districts in the East that seemingly can not get enough Western comb honey (alfalfa), and others that absorb large quantities of extracted alfalfa.

Our Colorado people eat honey as I never saw it eaten in the East. It is common for some of our Boulder grocers to sell a hundred cases (24-lb. cases) of comb honey, and a ton or two of extracted, in one season. People will eat alfalfa honey in large amounts more readily than they will the stronger-flavored honeys. Alfalfa honey is *eaten*, Eastern honey is only *tasted*.

The condition Mr. Miller speaks of is easily explained. The home-grown honey is soon exhausted, and the dealer, in order to supply the demand, sends his customers some of the alfalfa honey of which there is a large supply, only to find it does not give the satis-

### Growing Nectar-Rearing Plants and Trees

A county bee-keepers' association in Ohio is going after honey-flora in the right way, telling the railroads they can save their embankments by sowing sweet clover. I should like to see our bee-associations become militant, and raise their membership fees to about \$10 a year, the money to be spent in furnishing trees, such as basswood at cost to whomever would plant and care for them. In Colorado the planting of catalpa and the locusts is urged for furnishing fence-posts, and these are both honey-bearing trees. Orchard men are planting alsike clover in their orchards, and here is a chance for help if the bee-associations could furnish the orchard men with seed at a reduction in price.

Sweet clover is coming into its own, and it is up to the bee-keepers to help the farmers in finding out its value. The associations over the country could each appoint a committee to gather sweet clover seed, cleome seed, and seed of any other valuable honey-plants, the committee to be paid say \$2 each per day, and the seed to be sold to members and others as far as it would go, at actual cost. I think every association should have a few members who would be willing to spend a few days each year at this work. There are seasons here in the West when sweet clover, cleome, and other honey-plants get well-nigh killed out, and it would be profitable for the association to make efforts to get these plants re-seeded so that the range may remain valuable for bees.

There are hundreds of acres of seep-land in the gulches on the sides of the mesas on the Western Slope in Colorado, that are good for nothing but pasture, and sweet clover will improve it as pasture. Then, I have seen sweet clover and alsike growing together in these gulches.

Alfalfa will be cut earlier, as the dairy industry comes into the West more and more, and we shall have to see to it that our ranges are supplemented by other honey-plants. The alfalfa seed districts will always furnish honey, and the alfalfa when plowed up and put in wheat will contain considerable bloom that will help out, but the immense expanses of purple bloom are not so plentiful as they once were, and we shall have to look out for it.

The developing of an alfalfa of greater honey-bearing qualities is doubtless possible, but we have no one as yet working on it, and I do not think we can expect anything of this kind very soon. We can collect sweet clover seed and cleome seed now, and we can line our roadways with basswoods, locusts and catalpas, and have alsike in our orchards. It may not pay us to plant these alone for their honey, but basswood makes a beautiful shade, and catalpas and locust are valuable for fence-posts as well as shade. What shade-trees are planted might as well be honey-bearing, because they then add a perfume and sentiment to the roadsides, and who does not appreciate the hum of the bees?

## SOUTHERN



## BEEDOM~

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

### "Keep Better More Better Bees"

That motto of the late W. Z. Hutchinson, to "Keep More Bees," appealed to the writer long ago, and that was one of the aims with which we started out, and was responsible for our large number of colonies now. But we have found that there was another essential in connection with keeping more bees that was overlooked by many extensive bee-keepers, and that was the matter of keeping not only large numbers of colonies of any kind of bees, but *better bees*. That has been our aim in bee-keeping, and unconsciously at first, almost, we found ourselves not only "keeping more bees," but striving to "*keep better more better bees*."

There is a whole lot in this. To number the colonies by the hundreds is all right, but to have these numbers of better bees, makes a great, big difference. It means that only average crops will be obtained with the former, but the latter will give enough more in return to warrant keeping better more better bees. Our experience has taught us this, and therefore our motto shall continue to be, "Keep Better More Better Bees," and our aim shall be to live up to it constantly.

### Advantages of Divisible Brood-Chamber Hives

At this time of the year the writer receives many enquiries asking for information about the shallow, divisible brood-chamber hives used so successfully and extensively in our large number of apiaries.

The question, "What are the advantages of the divisible hive?" has been asked more than any other, in spite of the fact that we have mentioned these from time to time. But there are always new readers as well as those who did not give the matter more thought when they read the articles of ours on that subject, and for this reason it will be well to go over the ground again, perhaps a little more fully than at any previous time, since new ideas creep out as one works with the bees.

Presuming that the readers know that we use the 10-frame hive, bottom-boards and covers; that the bodies of the brood-chambers and the supers are all alike—5½ inches deep—and that the frames in both are the same, shallow Hoffman self-spacing frames, 5¾ inches deep, with plain top-bars ¾-inch wide and ½-inch thick, without a groove or saw-kerf on the underside to receive the foundation, we are ready to proceed.

One of the main advantages is the interchangeableness of the various shallow stories, or the frames from one part of the hive to another. Aggravating indeed it is when the apiarist would like to place a comb with some brood or honey in the super above, to entice the bees up into it, or when he

wishes to place a comb of honey from the super into a brood-chamber where stores are needed immediately. And that is the trouble found in apiaries where deep hives are used for brood-chambers, and shallow supers above them. It might be argued that the same full-depth bodies should be used for supers, but this is impracticable in this day and time of shallow supers, for not only comb honey but extracted honey as well. Besides, it is the brood-chamber in which the divisible shallow-frame stories play the most important part, and give us advantages that we can not obtain with the deep hives.

One of the most serious objections against deep-frame brood-chambers is the fact that the bees store a rim of honey above the brood and up to the top-bars and seal it there. This once here, the bees are loth to go over this and above to work in the supers when these are given. To get around this trouble without going to a lot of work about extracting the honey—which, especially in extensive bee-keeping, is out of the question—is the main reason why the divisible brood-chamber hive was adopted by us. By having the brood-nest in two shallow stories we can alternate these and keep the rim of honey away from above the brood. By putting the upper story with the honey in it below the one on the bottom-board, the bees will remove the former upper rim of honey now in the middle of the brood-chamber and make room for the queen, and as there is brood in the upper story, the bees must go above this into the supers and store the honey exactly where the apiarist wants it. Thus the two halves of the brood-chamber can be exchanged whenever it becomes necessary to do so, which, however, is not needed more than the first time with most of the colonies, once they are well started the super-work. Thus keeping the colonies busy and contented keeps them from swarming, and they store larger crops of surplus honey instead. This is one of the greatest arguments for the shallow hive.

This advantage of alternating the shallow stories before the honey season ever begins, is one of the best ways of stimulating brood-rearing, and securing tremendous colonies of bees for the honey-flow. With the deep-frame hives this is not so easily done, and the prevention of the swarming fever can not be so absolutely accomplished without much work and fussing, as compared with the ease by which it can be done with the shallow hives. And it is well known that if this can be prevented half of our yearly battle is won, and our profits from the larger crops of honey obtained will be greater.

Either as brood-frames or for comb or extracted honey, there is no necessity whatever of wiring the shallow frames like the deep ones must be



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done. And the saving on comb foundation is a valuable argument in their favor in addition to no wiring, in that thin super foundation, of which there are a good many more sheets to the pound, will fill more frames than the brood-foundation that must be used, and that with wires in the deep frames.

This is a great advantage in producing comb honey that is cut from the frames, as the septum is hardly susceptible in the finished product. For this purpose the deep combs with heavy foundation would be entirely out of the question.

In giving the colonies super-room, especially early in the season, when it is best to give them less room at a time, these shallow supers offer advantages that are worth more than the average person supposes. And especially valuable are they for giving room to weak colonies that can not care for more room, or when the honey season is not a good one; besides, we have found, time and again, that bees do more and better work if less room is given them at a time, and given oftener, even during the best honey-flows. Indeed, the use of them, we claim, are largely responsible for our success in obtaining just a little more honey from year to year than we might have gotten with deep hives.

That is not all, but the giving of the proper amount of room is in such shape that the best work in it can be done—shallow and spread out wide—as near to the brood-nest as it is possible to get it for best results.

And after the work in them is completed, the finished shallow supers are removed "in a jiffy," since the bees can be easily driven from them with a small amount of smoke after the cover is raised. This fact alone has enabled us to remove more honey from the hives in half an hour than can possibly be taken off in any other way, and it is possible to remove all finished and sealed honey much earlier than with deep combs, as it takes longer to seal the deep ones entirely. At certain times the latter are not finished entirely at all, and the consequence is that they are removed with part of the comb unsealed. With the shallow supers the upper one is entirely complete, while the lower ones are only partially so, and taken off without disturbing the lower ones, and a better grade of honey is obtained.

With deep frames it often occurs that brood is in the lower half of the combs, while the upper part is perfectly sealed. Some bee-keepers, yea many, remove these and extract them entirely, resulting in a product that is not very palatable to those who know something about such things. With the shallow supers the upper one is removed without any of the brood of those below. And the same applies remarkably to the instances when honey-flows slacken up suddenly and the greater portion of the upper part of deep comb-honey combs is sealed over but can not be removed without great loss on account of the lower portion being unfit for the market, or can not be removed at all until after later flows. With the shallow supers the upper part is removed, the lower left to be finished during the next flow, and so on.

The honey once in the honey-house, the delicate combs make the finest comb honey. For extracting, the honey-knife uncaps them so much more rapidly with one stroke of the knife that it does not take much longer to uncap them than deep frames. And if this oft-repeated argument—that too many frames must be handled and uncapped—were true, the time saved in removing the honey from the hives, handling the frames by whole cases or stories instead of singly, the ease of uncapping, the saving of comb foundation, together with the numerous advantages

in the bee-yard and elsewhere—all of which enable us to accomplish just so much more—overbalances so largely this objection that it is not worth mentioning.

But if we mentioned *all* the good points—how well they are adapted for queen-rearing; for finding the queen-cells along the bottom-bars of the upper story by simply tilting it up and looking underneath; how easily rapid increase can be made with them; swarming prevented, and a dozen others—it would be necessary to write a book on the subject, so we refrain.

## CANADIAN



## BEEDOM~

Conducted by J. L. BYER, Mt. Joy, Ontario.

### An Old-Fashioned Winter

Having a month of warm weather during December, the first two weeks of the New Year we were treated to a very cold *old-fashioned* winter variety. At this date (Dec. 17) there are signs of a change to warmer temperatures, which will be welcomed by the bee-keepers, as the bees will have a chance to move about the hive a bit. Of course it is too early for colonies to suffer very much as yet, unless short of stores—in that case it is a common thing to find the bees starved in the hive even if there are stores in some other places except where the bees had been clustered.

### Italians vs. Blacks as Foul Brood Resisters

Answering Mr. Foster's question (page 11) about Italians being more immune to foul brood than blacks, I would say that here in Ontario the claim is made only when the term foul brood is applied to the European variety, commonly called "black brood." So far as I know, very few, if any, claim that they are more resistant to the well-known variety commonly now called American foul brood.

As to robbing, the Italians are certainly worse than the blacks, but, of course, it is a fact as well that they defend their own hives better than the blacks. Carrying out this reasoning, it seems quite clear that the Italians stand to contract the disease oftener by robbing than is the case with the blacks; and, indeed, this has been my experience with the disease. But as to resisting the disease after it is contracted, any claims made along that line are, in my opinion, pure "moonshine."

### Bee-Keeping at the College at Guelph

These notes are being written at the Agricultural College, Guelph, Ont., where I am spending a few weeks. The different Short Courses are in progress, and among these classes the bee-keepers are quite conspicuous. About 40 are in attendance regularly, while many others from different points drop in

from day to day. Well-known bee keepers have been giving lectures among the most prominent being Mr. Clark, of Borodino, N. Y., E. R. Root of Ohio; and H. G. Sibbald of our own Province. Mr. Root will give an illustrated lecture one evening during his stay, and, judging by the interest displayed in the various classes, it looks as if the hall will be well filled. These Short Courses in connection with the different agricultural industries can not help but be a great help to the attendants, as the courses of lectures and demonstrations given are of an intensely practical nature.

### So-Called Sting-Proof People

On page 7 something is said about "people whom bees will not sting," and while there may be rare instances of this kind, as Mr. Doolittle claims, I have yet to meet the first one. True, I have more than once met men who made that claim, and when they were inclined to boast about it too much, it has always given me great pleasure to shatter their illusion when the opportunity presented itself. Notwithstanding what Mr. Doolittle says, I have an idea that under some circumstances bees would sting *anybody*, and I would like very much to test the matter out on some of these "sting-proof" fellows.

### Blending Honey

Telling tales out of school is against the rules, but sometimes a subtle hint of some of the facts adds to the gaiety of life.

Not so very long ago I was a guest of the Ontario Bee-Keepers' Association, at a convention held in Toronto, and in speaking of the magnificent honey displayed in all the markets, and at the show of farm products then being held, I commented on the extracted honey all being nearly water-white, and suggested that if the bee-keepers would practise blending their honeys, and doing it with judgment, they could sell their off-colored (*i. e.* not white) for as much as their best. Such a mess as I stirred up! A stocky little chap



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named Byer, fairly overwhelmed me with his criticisms; then another and another "sailed in," but when they held up long enough for me to ask a question, it developed that not one of them had given it a careful test. That made me feel just a little better, and I began to think that possibly some of them might give my suggestion some consideration, and some day try it, when there slowly rose another man. I braced myself for another assault, and this was what I heard:

"I have for years been blending my honey

as advised, and selling it in and around Toronto for the same price the rest of you secure for your white honey."

The silence which followed was audible. ARTHUR C. MILLER, Providence, R. I.

[The foregoing is given as a brief reply to Mr. Byer's item on page 13, and as it came in late, we did not refer it to Mr. B. for his approving comment. But we'll risk his objection. The joke seemed to be on some Canadians.—G. W. Y.]

## CONTRIBUTED



## ARTICLES~

### "Is Sugar Good for Bees?"

BY C. P. DADANT.

The American Bee Journal for November, 1911, contains a quotation from the British Bee Journal with the above title, in which "A Roman Bee-Keeper" condemns the use of sugar in feeding bees, and ascribes to this practice the diseases and mortality among bees in Great Britain as compared with Italy. The editor very properly contradicts this statement, and cites Samuel Simmins in the defense of sugar. As the American Bee Journal editor asks for statements giving convincing proofs that good sugar is harmless, I wish to add my testimony on this subject.

The elder Dadant was the first successful importer of queens from Italy on a large scale. Before our importations of 1874, there had been but very few queens imported. Grimm alone had made a large importation from Germany, but this was colonies of bees and not queens only. The successful transportation of queens was much more difficult than that of full colonies. The previous importations of Wagner, Colvin, Mahan, Langstroth and others, were confined to a few queens, with very irregular success, the bees in most cases dying of diarrhea, or from an overloaded abdomen. No one knew exactly the conditions required. It was not until my father's unsuccessful trip to Italy, in 1872, which was almost a disaster, that the conditions necessary to succeed were ascertained.

The main requirement to keep the bees that escort the queen from dying on the trip, is a food containing as little nitrogenous substance as possible. Pure white sugar was found the most assimilable food, next in line being the light-colored honeys similar to white clover, containing a minimum of pollen. Thanks to the faithful efforts of the Italian Giuseppe Fiorini, who followed our instructions to the letter, we secured hundreds of queens with less than 5 percent of loss, even though some of them were a month or more on the way. From these beginnings came the practise of putting up queens and bees with sugar candy in lieu of honey. It is now proven by daily practise the world over, in the matter of mailing

bees, that the food that contains the least amount of water and nitrogen is the best to keep them healthy in confinement. Dysentery or diarrhea appears when the bees have been long confined upon water food or unhealthy stores, such as fruit-juices harvested late in the fall, honey-dew from aphides, or fall honey containing a large amount of pollen-grains floating in it. Good sugar candy or thick sugar syrup always carries bees through in good shape.

The trouble, if any, in England, has perhaps been from the feeding of bees for winter with syrup when they were in bad condition and had a certain amount of unhealthy food already stored in the combs. No apiarist who follows a line of economy will feed his bees sugar syrup when they have an abundance of good honey. It is unnecessary and troublesome. But when there has been a failure in the honey harvest, the bees are more prone to store fruit-juice in the last warm days of fall. The apiarist then makes up the shortage with sugar. He should previously remove all this unhealthy food. If he has not already done so, he may charge his failure to the sugar syrup, when he should charge it to his own ignorance of the conditions and requirements.

That there is but little feeding with sugar syrup in Italy, as stated by "A Roman Bee-Keeper," owing to the high price of sugar there, is true. But that there is less disease there than in countries where they feed sugar when needed is incorrect. Foul brood is far from being unknown in Italy, and the "May disease," which is similar to, if not identical with, the "Isle of Wight disease," has stricken entire districts from time to time. To illustrate this, I need only refer to the May, 1905, number of L'Apicoltore, of Milan, in which the editor says:

"One thing, however, we hold in apprehension—it is the fear of the 'maldi maggio,' which afflicted us last year, and not ourselves alone. It is a grave malady which causes the total loss of the spring crop and lessens that of summer without counting that the decimated colonies do not succeed in recovering the needed strength, and suffer thereby until the following year."

In the January, 1906, number a long description is given of this disease as it ran its course among the bees in the

Marche districts, especially in the Province of Ancona.

Those who are acquainted with bee-culture in our Western States, know how much trouble bee-keepers have had in a few of the best honey-producing irrigated valleys, with foul brood, in spots where both the excellent honey crops and the low prices of honey on the local markets have made the use of sugar syrup impracticable.

I unhesitatingly assert not only that I positively know sugar to be harmless to the bees, but also that the feeding of good sugar syrup, where the bees are short of stores, is immensely preferable to the feeding of honey of unknown origin. It took years and years before the bee-keeping world became willing to accept the assertion of D. A. Jones and others, who, after Schirach, stated that foul brood was transmitted mainly in the honey. Cheshire examined honey from diseased colonies, and because he failed to find traces of the bacillus there, condemned this assertion. But it is no longer a theory, and we have at last come to accept the ideas of Schirach, published in 1769, which indicate the fasting of bees as the only positive cure for foul brood. Every day more proofs of the validity of this claim come to the front. We are slow to progress. It took centuries before the rotundity of the earth and its motion around the sun were accepted otherwise than as being the vagaries of cranks and sinners, and we still have people who deny Haeckel's and Darwin's "evolution" evidences. But I am running away from my subject.

Good sugar syrup, or properly made sugar candy, is equal to the best honey for bees that are to be confined a long time, whether it is for transportation or for winter. But for spring feed, for breeding, the requirements are entirely different. We then need watery food. This will be clear to our mind if we watch the adult bees in quest of water at the risk of their life in cold, spring days, when the breeding has begun. It is also clear that nitrogenous food is needed—witness their search for pollen at this time and in lieu of pollen, flour, meal, etc., which they eagerly gather. A friend suggested, years ago, that we should make the syrup very thin when to be used for breeding, and serve it warm to the bees. This proved an excellent idea. If plenty of pollen is to be had, at the same time, I do not see why the bees would suffer. Such food is certainly better than doubtful honey or nothing. However, no one would consider syrup as superior, or even equal to wholesome honey at that time. As long as there is no confinement, honey loaded with nitrogenous matter is harmless, and is probably much the best for brood-rearing, owing to its well-known pre-digested condition.

But I would be tempted to consider sugar syrup as best when the May disease is feared, were it not that some experimenters have reported the disease to occur even in colonies that had been fed with this substance.

Paralysis, vertigo, the May disease, the Isle of Wight disease, and constipation, appear to be different names applied to varied forms of the same

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malady. The exact cause will sooner or later be found, but it is certainly not in sugar syrup. "Bacillus depilis," and the newly discovered "nosema apis," are both charged with it, but a number of dissenters object, apparently with good reasons. The disease is not new. It is mentioned by Della Rocca, Huber, and Bevan. The last-named writer calls it "vertigo." Hamet, who places constipation and vertigo under two different heads, reports the existence of both diseases as an epidemic in France in the middle of the 19th Century. And as to foul brood, we all know that Aristotle mentioned it 330 years before Christ, and many centuries before sugar was manufactured.

I believe it is as unreasonable to object to sugar as food for bees in seasons of scarcity as it is foolish to recommend the extracting of all the honey in the fall to replace it with sugar syrup, whether the honey was good or not, under the plea of economy or profit, as was done by some a few years ago.

Hamilton, Ill.

## No. 2.—Improving the Honey-Bee

BY ARTHUR C. MILLER.

The increased honey-yield which is possible by even a reasonable amount of effort in selecting and breeding bees is little realized by the majority of us. At every assembly of bee-keepers the works of individual colonies are recounted, but rarely does one hear of any intelligent attempt to perpetuate the good results. An interesting exception to such condition came to the writer's attention a few years ago, and has been watched by him ever since.

A professional honey-producer had often noticed the differences, and made effort along the usual lines, but with only indifferent results. About 1905 he learned of some of the more advanced ideas on breeding, and began anew his efforts to improve his stock. His first step was a careful study of all his colonies in an effort to find one at least possessing marked superiority to the rest. He took special pains not to be misled by any possible results of manipulation or environment, and he finally picked 2 colonies as possessing desirable characters considerably above the average stock.

From one of the colonies he reared 36 queens the first year, allowing them to mate as they would. The second year he reared from the original breeder 22 queens, making every effort to mate them to drones from the queens of the previous season's rearing. This was done by forcing to excess the drone-production of those queens and suppressing the drones of other colonies.

The second year the colonies headed by the young queens of the selected stock showed honey-production much above the average of the rest of the yard. The third year found him with 125 colonies of the selected stock, and 84 of other grades. The selected stock yielded much more than the others.

During the season of 1909 one apiary had 250 colonies of the select stock,

and yielded an average of 40 pounds of comb honey per hive, while another apiary—one that he bought, on equally good pasturage—with the same sort of hives and treatment, yielded him but 22 pounds per colony, over half of it extracted.\* The results seem to prove beyond dispute that he found and perpetuated a true and valuable mutation or "sport."

One of these queens was sent to the writer in 1908, too late to show what the bees would do as honey-producers, but early enough to permit the queen to build up a full colony of her own bees. During the following winter and spring their hardiness was carefully compared with that of a strain of known character, and they ranked exceedingly high. During 1909 many of the drones from this queen mated with queens of the writer's stock, and in every such instance the drones stamped their character strongly, being decidedly dominant over the queen stock. In reciprocal crosses the same dominance of the new strain was apparent. It was very easy to determine what the crossings were because the two strains were very different in color, shape and sundry reactions.

It is the writer's belief that if bee-keepers would pay less attention to color and more to the habits of their bees they would gain knowledge of them which would be of great help in tracing blood. And until control of the mating of queen and drone is secured we must depend upon such scrutiny to identify and retain the results of our labors.

If color is "fixed," as it was in the two strains just cited, then it is a very valuable ally; but color is perhaps the most variable part of the bee. Few of the commercial queen-breeders pay any further attention to the drones they are to use than to take pains to suppress those from mothers whose workers are not well marked, and as drones from the average run of even the better strains of the yellow races are in coloring quite variable, it is small wonder that color is not often to be relied on. But there are queens which produce drones as uniformly marked as the most critical could wish, and by use of such drones color may become a dependable factor.

Observations lead to the belief that queens usually mate near home, and that it is the drones that wander far a-field, but if a little pains is taken to obtain a supply of a few thousand drones from a selected queen, and suppress all others in the immediate vicinity, it will be found to be rare that a queen will mismate. As a result of many years' work, it is the writer's conviction that with reasonable pains along the lines indicated in the foregoing, it is possible to make much progress in breeding bees, perhaps almost as well as if mating was under positive control.

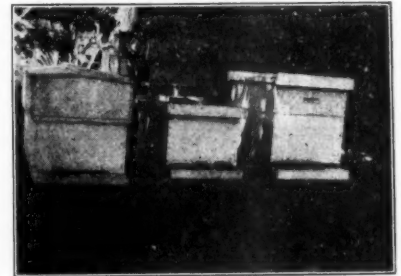
The persistent efforts of the bee-keeper referred to herein, coupled with his natural ability, has produced results not only gratifying and profitable to himself, but exceedingly valuable to the rest of us as an example of what can be done.

Providence, R. I.

## Combination Device for Swarm Prevention and Comb-Honey Production in Brood-Chamber

BY WILLIAM C. POOLE.

A new method for obtaining comb honey in the brood-chamber and the prevention of swarming was experimented with by Mr. Frank Darrah, in his apiary at Van Cortland Park, N. Y. While visiting Mr. Darrah one day at

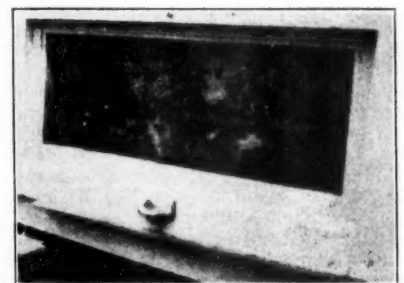


1.—PART OF APIARY OF FRANK DARRAH.

his apiary last spring, my attention was drawn to this experiment which I became interested in, and through the kindness of Mr. Darrah I am writing this article in the hope that some of the American Bee Journal readers will become interested in it and help carry this new method further.

The experiment was tried in a hive 20x20x9½ inches, in which was inserted 9 frames of brood and a queen. These 9 frames of brood were centered in the hive, and on each side was placed a queen-excluder used in the same way as the division-board. This queen-excluder was made of the ordinary perforated zinc with a strip nailed on the top so as to let it hang on the rabbets on the two ends of the hive on which the brood-frames hang. It extended down flush with the bottom of the hive to prevent the queen passing under it.

When the brood-frames were put in the hive close together, and the queen-excluder placed on each side, it left room on each side of the excluders to



2.—VIEW OF HIVE SHOWING SECTIONS IN BROOD-CHAMBER.

place two comb-honey section-holders. One comb-honey section-holder was placed on each side of the hive at the bottom with 4 sections in each, 4¼x-4½x1½ inches, and another section-holder was placed on the top of each



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with the ends of the holder made high enough to reach the rabbet of the hive which the brood-frames hang on, and by nailing a little strip on the top of these section-holders it would rest on the rabbet holding the brood-frames. By having the two section-holders on each side it would enable one to put 16 sections in the brood-chamber.

The super used on this large hive would contain 36  $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{8}$ -inch sections, which, in the case of Mr. Darrah, when looked at on July 23d last, were filled and capped ready for taking off.

The great advantage of this method is in putting in the sections early in the spring in the brood-chamber when the first honey starts to come in, as at this time the bees store excessive amounts in the brood-combs, and tend to crowd the laying space of the queen; and later, during the warm weather, it tends to lower the temperature of the hive, which is usually congested with bees and brood. In my case the bees filled the outer combs completely full, and the other combs over one-third full, but by the experiment of Mr. Darrah, this congestion was overcome and gave the queen ample room to lay.

It was thought by friends of Mr. Darrah that the bees would fill these 16 sections partly full with pollen, but to their surprise there could be found not even a trace. As soon as these 16 sections are filled they could be replaced by another set. The frames in this

stacked up in the honey-house. It was the intention to fumigate it after a week or 10 days, and some stacks were thus treated. Indeed, the most of it was subjected to the fumes of bisulphide of carbon. My sulphide gave out, and when we crated the untreated honey, we found some infested with the wax-moth larvæ. Particularly were such cases affected containing pollen. A very few sections were utterly ruined; others were only slightly damaged, and we crated them with the No. 2 grade, after they had been cleaned up by the bees. A colony, which is being fed liberally, either for the purpose of finishing up unfinished comb honey or to supply them with winter stores, may be trusted to do the work of restoring such slightly damaged honey after the honey season has come to a stop.

In one of our yards the late crop was not taken off until frosty nights came in September. It was a very simple matter to remove this honey. We needed neither escape-boards nor smoke. There were no bees in the supers. This late-taken-off honey was not sulphured, and no wax-moth larvæ made their appearance.

We neglected or omitted to have our extracting-combs cleaned up by the bees, as has been our custom. The extracting was done late in July. These combs have not been molested by the moth, and have not been sulphured.

## INSETS IN SECTIONS—BEEWAYS.

Can any one tell us why insets to beeway sections should be cut deeper than  $\frac{1}{8}$  inch? We adopted a section with  $\frac{1}{8}$  inset over 30 years ago, and see no reason to have them different. The regular  $4\frac{1}{4}$  section used to be made with insets or beeways  $\frac{1}{4}$  inch deep; the present make is about 3-16. I was duped with a 4x5 lot one time which had insets  $\frac{1}{4}$  deep. I had omitted to specify the depth of the beeway in my order. I must say I did not like such sections, particularly as the top and bottom bars of all my wide frames were calculated on the  $\frac{1}{8}$  inset.

Is there any good reason for providing beeway supers for comb honey with more roomy passage-ways than no-beeway section supers? If so, what is the reason?

## BISULPHIDE OF CARBON.

Bisulphide of carbon is very handy to use for fumigating honey and combs, but is more expensive than burning sulphur. Our druggist charges 35 cents per pound, which is absolutely prohibitive. In Rochester I can buy the stuff at \$1.00 per gallon, and a gallon weighs 10 or 11 pounds. At that rate I can afford to use it on account of its handiness, although even at this price the sulphur at about 3 cents is much cheaper to use.

Bisulphide of carbon is sold in gallon tin cans, at least I thus bought it. For safety's sake I stored in an empty bee-hive out in the apiary. Before being more than half used up, holes appeared around the top of the can which were not observed until all the sulphide had escaped. The lesson to learn from this is to keep such volatile fluids in earthen vessels and well corked.

## AN EXPERIENCE WITH BEE-VEILS.

The silk tulle bee-veil is perhaps the most comfortable protection a bee-keeper can wear. However, they easily tear when used over a common straw-hat, although sometimes I had one last me 2 or 3 years. Of late I have tried the Alexander veil with satisfaction, but I had to make some alterations before it was safe. The vulnerable spots were at the back of the head where the wire-cloth touches when bending over, and on top of the head where not a few of us are lacking that desirable and natural covering—hair.

These defects of the Alexander veil may be remedied. A light, short leather strap going half way around the head may be sewed or riveted to the wire-cloth about 3 inches from the upper edge in such a way that it keeps the wire-cloth away from the head. An extra piece of burlap fastened in the crown will give protection for the top of the head where the hair is missing. I received quite a few stings in these spots before I made the described alterations, and now the trouble is over.

## GERMAN INTRODUCING-CAGE.

The wire-cloth introducing-cage, brought out of late, will be recognized by those familiar with the practise of the bee-keepers in Germany, as a substitute for the "Pfeifen deckel"—the wire-cloth cover of the porcelain tobacco-pipe of old. It has given the very best satisfaction to the bee-keepers who have tried it, and has very commonly been used in Germany for a great many years.

## BOTTLES FOR FEEDING BEES.

For slow feeding and for giving water, the German bee-keepers often use ordinary bottles, either arranged in the upper story or also as atmospheric entrance-feeders.

Naples, N. Y.

## Address to the Michigan Bee-Keepers

BY PRES. E. D. TOWNSEND.

*Friends and Members of the 42d Annual Convention of the Michigan State Bee-Keepers' Association:*

It is with a good deal of pleasure that I am allowed the honor of presiding at this meeting, and without further preliminary I will suggest a few subjects for the consideration of this assembly that may be of interest to this and subsequent meetings.

The first and perhaps the most important question I would bring before this convention is, Shall we become an auxiliary to the National Bee-Keepers' Association, as the new Constitution adopted by the members last month provides?

You will have an opportunity to decide this question at this afternoon session. If this new move of the National, adopted at their last meeting at Minneapolis Aug. 30 and 31, be accepted by this Association, *i. e.*, that we become an auxiliary to that body, this may be the last meeting of the Michigan State Association of bee-keepers.



3.—PART OF APIARY OF WM. H. POOLE & SON

hive of Mr. Darrah's were filled with brood and eggs, even to the outer frames.

This method would be an expensive one for a man having several hives in his apiary, but it would be profitable for him to have 5 or 6 of these hives in his apiary to use in the spring in building up the colonies which did not winter well, by giving them one or two frames of brood from these large hives. The bee-keeper who tries this experiment will find it profitable both in getting frames of brood from this strong colony, and also in obtaining a honey-flow from the brood-chamber in the spring and fall.

It is hoped by the writer that this experiment will be tried by other apiculturists, and that he will hear more from them through the columns of the American Bee Journal.

Yonkers, N. Y.

## Fumigating Comb Honey, Etc.

BY F. GREINER.

A portion of our comb honey was removed from the hives July 1, and

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I would call the attention of the members to the fact that the new Constitution drawn up and approved at the Minneapolis meeting of the National, is somewhat of an experiment, as there was no precedent to go by, and that no member need hesitate about voting for its adoption on account of some minor defect it may contain, for ample provisions have been made in the new Constitution for adjusting any defects.

If we decide to become an auxiliary to the National, I would advise that local members be elected to fill the several offices of this branch of the National for the ensuing year. I would also advise that the offices be of an honorary nature, *i. e.*, without compensation. The members will see the advisability of this when I say that I shall use my influence to make this branch a permanent one, with annual meetings, or oftener, as the members see fit.

I would also recommend that this Association consider at this meeting the matter of appointing an organizing committee of two in each of the following centers: Detroit, Lansing, Jackson, Kalamazoo, Grand Rapids, and Traverse City—with the idea of organizing a branch of the National at each of these locations during the month of January next.

This Association was the first, I believe, to offer its service to the National as an auxiliary, so let Michigan be the first to be thoroughly organized along these lines.

There are other locations that need to be organized, and these can be seen to in the future. If Michigan can start the year with seven auxiliaries, we ought to be satisfied.

This (1911) has been a very disastrous year with us, in as much as we have lost two of our most prominent members since our last meeting in Grand Rapids, a year ago. The committee I will appoint upon resolutions will kindly give this matter its due attention. I recommend that suitable resolutions of regret be mailed to the widows of the two departed members—Mr. Hutchinson and Mr. Hilton.

The year 1911 has not been up to the average from the honey-producers' standpoint. Many will be tempted to sell their bees after such a discouraging year. I would advise the members to "stick to the bees." Further, I would suggest that this would be just the time to buy more bees, as likely many will be offered for sale, and at satisfactory prices.

We need a new law upon bee-diseases in this State. Whether anything ought to be done at this session of our Association toward this end I will leave to the members to decide.

In conclusion, I want to impress upon the minds of the members the importance of being well organized when in need of anything from our Legislature. If the scheme I have outlined heretofore in this paper is carried out, that of organizing in all the main centers of the State, I predict it will double our membership in the State. This larger number of members will have a great influence upon our Legislature and Governor.

Remus, Mich., Dec. 1, 1911.

## Order and Tidiness in Apiary

BY G. M. DOOLITTLE.

"Order is heaven's first law," is an expression we often hear used. But when some of us travel about and visit the apiaries of different bee-keepers, we are compelled to admit that all do not have this matter of suitable neatness and order established in their minds. Brother and sister bee-keeper, I wish to impress upon you that ours is a noble pursuit, and therefore we should deal with it as such. Let us not degrade it by slipshod and slovenly work.

Our methods need not be of the poorest kind, even though we do not feel justified in having palace hives for our bees to occupy. There is no business that compares more favorably, nor that is more capable of being carried out in a beautiful way than is apiculture. Apiculture is sometimes called "the poetry of agriculture." And from this standpoint it seems almost like a desecration to see hives at all angles, and at all points of the compass, as though some "joy rider" had lost control of his automobile when passing near the apiary, and the hives had been tossed about in all directions by some intruder who had "lost his head."

I know that there are those who claim that a promiscuous placing of hives is necessary in order to secure the safe return flight, when the young queens go out to mate, but with a practical demonstration of this matter during over 30 years of rearing queens both for home consumption and to supply the trade, I consider this more of the fancy, or from relying on an oft-repeated dogmatism, rather than having any foundation on fact. Especially is this true where a proper distance is given between each hive or colony.

So many times have I seen apiaries kept in slovenly shape that I wish to make a plea for system, neatness and orderliness. I remember going, some years ago, to the apiary of one of "our great lights" in bee-keeping, and finding the hives not only standing at all angles, and in all directions of facing, but from 5 to 10 would be "thrown" together in a clump, while the vacant places in the enclosure for the apiary would have accommodated all the hives, had they been properly spaced, with an abundance of room sufficient to warrant the safe return of every queen. Not only this, but the grass and weeds were nearly or quite as high as the tops of the hives, while poor, pollen-laden bees were struggling and losing their loads by trying to crawl through the grass to reach the entrance of their home. Then in several places in the yard, and in the corners of the same, were piles of rubbish mixed in with hives, covers, and bottom-boards that had gotten out of repair, the same being allowed to lie there and rot instead of being stored in the repair-shop ready for a profitable entertainment for the apiarist on some stormy day.

Then it almost made my heart ache to find in another corner a pile of several hundred frames of comb which had too much pollen or drone-comb in them to be considered worthy of keeping longer, as they were in the hives

all thrown in together, many of the combs already being more or less consumed by the larvae of the wax-moth, while the rain and the weather were twisting and rotting the frames which held these combs. Besides this waste, this slovenly manner of affairs was breeding more wax-moths than 100 careful and tidy bee-keepers would do, while these same moths would go out to inconvenience and annoy those who had with great pains gotten their apiaries nearly or quite free from the same.

Then on going to his shop and honey-house, the shop-floor was covered with sawdust, shavings and dirt to the depth of an inch or two, with pieces of hive-stuff thrown in promiscuously, while the honey-house part of the same was littered up with all sorts of odds and ends, and every available space piled full of a miscellaneous collection of "traps and calamities."

The reader may say that it takes time and money to keep things tidy and orderly. But I wish to say that it does not take nearly so much time in the long run to do our work, as it did this noted apiarist, who was so noted by his writings and words on the floors of our bee-conventions. In our beginning, it may take a little more time and money to fix or make an appropriate place for everything; and it may take a little more time always to put everything in its proper place, thus having a place for everything, and having everything in its place, instead of dropping them where they are last used. It does take a little time to keep the grass mowed in the bee-yard. All of this I am willing to admit, but this is but a "drop in the bucket" when compared with the waste of both time and money which comes to the one who has no place for anything, and allows his bees to wade through "standing timber" before they can get home with their loads of honey; while the moths are eating up and ruining the wax in the combs which are of much money value, even when turned into wax. Therefore, in the end, it is time and money saved, and something which I consider of far more importance, it is temper saved.

A man can accomplish much more work when he is in a contented, good-natured, happy frame of mind. And even from a dollars-and-cents point of view, such a frame of mind contributes to a more profitable investment. And nothing is more conducive to this frame of mind than always to find everything in its place. Of course, the money part of our business must be kept in view; otherwise, in this day and age of the world, it is "over the hill to the poor-house." But in my over 40 years of bee-keeping life I have noticed this: The most profitable honey crop is never obtained in a slovenly manner. And this can be said equally when speaking of farming, manufacturing, merchandizing, or what not.

I know that neatness and order in and of themselves alone do not insure success; but that trait of character that does everything along these lines so thoroughly, so tidily and so orderly, is the trait which brings success. Properly spacing the hives, keeping the bee-yard mowed at the right time, cleaning out the shop and honey-house, will not of themselves bring success; but the



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bee-keeper who can so arouse himself, or herself, that they will see the necessity of having things "done decently and in order," and the help and inspiration which comes from so doing, will not stop there. These will adopt better methods whenever such are seen and found, carefully scan the bee papers and books for all such methods, and get better implements, etc., when need-

ed, to carry out these methods.

I have been all the more free to write as I have here, because for some years of my first bee-keeping my apiary and honey-house were of the "heart-ache" kind; but a visit to one who kept everything up "in shape," and who made bee-keeping a success in every way, taught me a lesson which I have never forgotten. Borodino, N. Y.

of hives runs east and west, facing south where the sun shines on them from all sides; no shade trees. During December, the weather being mild, I looked over them and the burlap in the supers was damp. All burlap is washed so it is clean when it goes over the bees. I put in as much burlap as the supers will hold, but a few are not quite as full, so that they are as damp as the full ones.

2. Will moldy combs be cleaned up in the spring by the bees that have been in the brood-nest, through this dampness I have spoken of? NEW YORK.

ANSWER—The moisture in the hives is from the breath of the bees. So you see there is no way to prevent it, the only question being the best way to get rid of it. Sometimes it condenses on the side-walls of the hives and runs out of the entrance of the hive. In your case it has settled in the packing above the bees, which is not such a very bad way, and a good deal better than to have it settle on some solid surface above them, so as to fall in drops upon the cluster of bees. When the packing becomes wet, it is a good plan, when a warm day comes, to dry it out in the sun or by the fire. Very likely there is no more dampness in your hives than there should be, but it may be well to mention that having the entrance too small may apparently increase the dampness, for a good-sized entrance allows at least some of the moisture to escape in that direction.

2. Yes, the bees will clean up such combs nicely. They may be given one at a time in the brood-chamber, for too many at once is rather discouraging to the bees, especially if very mouldy. A good way, also, is to put mouldy combs in a brood-chamber and put it under a strong colony, so that the bees will pass through it in going and coming.

## Leonard System of Curing Foul Brood.

I have recently made the discovery that there is American foul brood in one of my yards of 113 colonies. Would you consider it safe to try to eradicate it on the plan spoken of on page 63 of the proceedings of the last National Convention, called the "Dr. Leonard System?" If not asking too much I should like to know your opinion of this method, very briefly stated. TEXAS.

ANSWER—Dr. Leonard's plan is a variation of the Baldrige plan. I have never seen many reports of it, but I know no reason why it might not be successful if carefully carried out. The theory is that when a bee leaves a hive it goes empty, so does not carry any of the infected honey with it, and then when it returns from the field the Porter escape prevents it from entering the old hive and obliges it to enter the clean one.

## Hives in "Shook" Swarming.

Will you state to what extent it is important, or well-nigh indispensable, in "shook" swarming, that the hive into which the bees are to be shaken is "exactly" like the old one? As when one wants to practice this without increase, the one hive is of temporary need only—not over a month—it would seem desirable to use a home-made box for a hive which would save expense; especially when having double-walled hives, one would have to have a duplicate set of the most costly hives manufactured for regular sale. PENNSYLVANIA.

ANSWER—When a hive is exchanged for another, the bees will notice the change if there be much difference in the size or

## DR. MILLER'S ANSWERS



Send Questions either to the office of the American Bee Journal or direct to  
DR. C. C. MILLER, MARENGO, ILL.  
He does NOT answer bee-keeping questions by mail.

### Keeping Queen Over Winter.

An Italian Queen that I received last summer I placed in an observation hive, and the bees are all dead but a few. I like the queen very much and would like to keep her until spring. Could I put her in a full colony of black bees with another queen? My bees are all in the cellar.

MAINE.

ANSWER—If you put the queen into a hive with another queen she will be killed. If you kill the black queen, then two or more days later you might pretty safely put into the black colony the frame from the observatory hive with all its bees and queen. Still safer would it be to put the queen into an introducing cage when you put her into the black colony.

### Foul Brood in Trees, Houses, Etc.

More than once in convention reports, I have read where it was directly stated or intimated that bees do not have foul brood in trees, buildings, etc., and now in the December number of American Bee Journal, page 371, A. W. Smyth, in an extract from Irish Bee Journal, says: "No one has found foul brood in bees . . . in any home not purposely made for them." I should like to know on what this common belief is founded. If this is the rule, I know of at least one exception, as I took a colony of bees from a house, which colony had European foul brood, and I cannot see any reason why such a home for bees should be exempt from the disease. NEW JERSEY.

ANSWER—I do not think that the opinion prevails on this side the water that bees never have foul brood "in any home not purposely made for them." Indeed it has been urged that one reason why it was so difficult to get rid of foul brood was because of diseased wild colonies. Why should not a wild colony be exposed to precisely the same dangers as one in a Langstroth hive? Your one case is enough to prove that bees may have foul brood in a home not specially prepared for them.

### Bees Dying on the Snow.

I have no practical experience with bees, and they are bothering not a little. There is now about ten inches of snow on the ground here, and my bees seem to be flying in it and perishing more than common. Jan. 5th, when I came home from school, the snow was dotted all around in front of the hives where they had flown out, and it was exceedingly cold, down almost to zero, and no sunshine to lure them out. On the morning of Jan.

6th, I went out to scrape the snow off the alighting-board. A few bees flew out in the snow and perished. There was no sunshine and the thermometer showed ten degrees below zero. I thought that bees were always dormant, or, in other words, frozen too stiff to fly when that cold.

Yesterday, Jan. 7th, I went to look at my bees and I counted fifty out on the alighting-board frozen, besides what were in the snow on the ground, the alighting-board being covered with snow. They had all come out that day, too, for I cleaned them all off the day before. Yesterday evening the sun came out for a little while, and though it didn't shine in the entrance they came out more than ever, perishing in the snow, it being down to 0. I have but four colonies, two of them are packed with hay and leaves, a winter-case being on the outside of them, and one of the remaining being in a dove-tailed single-walled hive without any packing absorbents on top, and the other in a large box-hive. The first two named do not seem to be acting so badly as the latter, especially the box-hive colony, and I am especially anxious for it to winter well as I want to transfer it in the spring. The bees do not need a flight for they had a good cleansing flight a week ago yesterday. The box-hive bees keep up a sort of roaring, buzzing sound like summer-time. It is chock-full of bees. WEST VIRGINIA.

ANSWER—Bees do not become entirely dormant, although nearly so. The chief trouble in your case is the excessive cold, and the noise you hear in the one hive is the regular thing when bees are very cold. The bees are exercising to keep warm. It will help matters if you will pack something over and around the bees to keep them warmer. Old coverings of any kind will answer, or even corn-stalks. You might try putting a board up in front of the hive to prevent the light shining in, but as you say they come out when the sun is not shining, it may not do much good. But there must be nothing left to hinder the free flight of the bees when it comes a good day for them to fly.

### Dampness Over Bees—Moldy Combs.

1. Please let me know the cause of dampness, and how to keep it dry over the bees. My bees are wintered outdoors on the summer stands, 6 inches off the ground on skids with a few winter-cases on some, and tar-paper and boards over the covers of the others. They are on 8 and 10 Hoffman frames, in dovetailed hives, and protected on top so there will be no leak. All is tight at the top. The entrances are from  $\frac{3}{8}$  by 2 to  $\frac{3}{8}$  by 6 inches. This line

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shape of the hive, and still more if there be a difference in color. Yet they go by location mostly, as you will see if you take away their hive, leaving nothing in its place, for they will for a considerable time fly in front of the vacant place before they turn aside to any other hive. So although it may trouble the bees to have a hive of different appearance given them, they will in a little time become reconciled to it. At the same time the more the front of the hive looks like the old one the better.

## Reversing Alexander Plan of Dividing.

1. Referring to the Alexander method of preparing colonies for division, by placing the older brood above an excluder until sealed, and the queen with open brood below upon the bottom, I would like to divide as early as there is sufficient brood, and for that reason would like to know if the process might not successfully be reversed, the queen being placed above the excluder, and the brood for sealing below, and thus avoid desertion of the queen by reason of unexpected cold, which has been reported by one observer.

2. How soon, with respect to the quantity of brood in the hive, would you consider it wise to make such division?

ANSWER—Yes, the queen may be put above the excluder, leaving the brood below, although you will probably not like it quite so well, for the natural thing is for bees to work downward with the brood.

2. It is doubtful if the plan can be most successfully carried before the brood reaches its maximum, or nearly that, say 6 frames of brood. You say that in one case the queen in the lower story was deserted by the bees on account of the cold. It's dollars to doughnuts that in that case the operator was in too much of a hurry, and the colony was not yet strong enough for division. If the colony is sufficiently strong, there is little danger that the queen will be deserted in the lower story. But you can make sure that the queen will not be deserted by leaving one frame of brood below. Just by way of a special favor, I'm willing you should try dividing one colony very early, but the rest you would better let alone till about the time bees swarm naturally. Make haste slowly.

## Queen Questions, Etc.

1. Will a virgin queen-bee sting a person while handling her?
2. Will a queen-bee die after stinging another queen to death in a hive? Or does a queen never lose its sting while stinging other queens?
3. Does a queen die soon after she loses her sting?
4. Are bees that have more bands between those that have less?
5. Are there any 6-banded bees? Or are there bees that have still more than 6?
6. Please tell me some of the advantages that bees with more bands have over those with less, and vice-versa?
7. What is the color of European foul brood?
9. How can you tell the difference between the two? My bees never had it so I don't know what it is.
8. What is the color of American foul brood?
10. Isn't a metal-spaced frame better than a staple-spaced frame, in case you move bees once in a while?
11. Will an Alexander feeder fit under a double-walled hive just as well as under a single-walled hive?

ANSWERS.—1. No.

2. In a royal combat, the one queen is killed while the other does not lose her sting and is entirely uninjured.

3. I don't know; I never had a queen lose her sting.

4. Yes, and no. Bees with more than two bands are better than those with 2 or less. Some think that bees with more than 3 bands are better than those with only 3, while a large number prefer those with 3 bands.

5. I've never heard of more than 5.

6. I don't know enough to tell all that. There is the advantage of looks, for the more bands the more beauty. In the pure Italian stock, as imported from Italy, the workers each have 3 bands. Some of those bred in this country with more than 3 bands are said to be better bees, while others say they are not so good.

7. The unsealed larva, instead of being pearly white as in a state of health, is of a distinctly yellow tinge, becoming darker as it dries, until very dark brown or black.

8. The dead larva is coffee-colored.

9. The most striking difference is in the matter of stringiness. Thrust a toothpick into a larva with American foul brood, and as you draw it out it will form a string an inch or more long, while in a case of European foul brood it will string out half an inch or less, perhaps not at all.

10. Some prefer one, some the other. I prefer a heavy galvanized shingle-nail to either.

11. I don't know from experience, but if I am not mistaken the feeder will go with either.

## Putting on Comb-Honey Supers—Glass Hives—Miller Feeders—Growing Basswood—Working with Bees.

1. Is it just as good to put comb-honey supers filled with super foundation on a colony 3 or 4 weeks before the honey-flow? If not, why?

2. Has any one ever tried to introduce any of the famous California sage in the Eastern States? If so, with what results?

3. I have been intensely interested in glass observation hives, but have never tried any yet. I would think that in a one-frame small enclosure, the bees would be inclined to swarm. How can a person keep them from it?

4. Does honey gathered from fruit-blossoms that have been sprayed, kill the old bees or the brood?

5. I have 2 Miller feeders, and I fed my bees some in them last fall, but I didn't get very satisfactory results. I made syrup, two parts sugar and one water, and filled the feeders half full and placed them on strong colonies; they were 4 or 5 days in removing it, and it took colonies of medium strength 8 or 10 days to remove half a feeder full; there were plenty of empty combs to store it in, and several of the bees drowned in the feed, especially when I would refill them.

6. I would like to set out some basswood trees in the spring. There are but a few basswood trees around here, and I have never noticed any small sprouts. Could I propagate them from dormant cuttings made in the spring, or from seeds that have hung on the trees or laid on the ground all winter?

7. I would like to work for a month or so with some apiarist in the busy season in the spring. I should prefer to work in Ohio, Pennsylvania, Kentucky, or other adjoining States, and with an apiarist that produces comb honey. I am 16 years old, and think I can do a man's work in heavy work. I have kept a few bees since I was 12 years old, but haven't

had much experience with them, for I have never handled them much. Do you know where I could secure such a place?

WEST VIRGINIA.

ANSWERS.—1. Decidedly not. As long as 3 or 4 weeks before the honey-flow there is pretty cool weather, and especially cool nights. Putting on a super at that time would cool off the hive and hinder brood-rearing. It is well, however, to put supers on about 10 days before the harvest, for then the weather is not so cool, and the harm done by cooling off the hives will be overbalanced by the advantage of having the bees become familiar with the upper story and having it there in readiness to be used just as soon as needed. As you are probably in a white-clover region, you will do well to put on supers as soon as you see the very first white-clover blossom.

2. Quite likely some one has tried it, but not successfully, or else it would have been reported.

3. I think there is not generally much trouble in that direction. If you should anticipate danger, extract some of the honey from the comb, and if that does not seem to give the queen room enough, exchange the comb for one nearly or quite empty.

4. Both.

5. Likely it was somewhat late. Bees make slow work on feeders when the weather is cool. You can help matters by giving the syrup pretty hot. Bees dying in the feeder is something unusual. I don't know why it should happen.

6. Basswoods are difficult of propagation. I don't know how you would succeed with cuttings, but with the same advantages that florists give cuttings in greenhouses, you might come out all right. Thousands of seedlings come up for me each spring from seeds that have lain in the ground over winter, but for some reason that I don't know they always disappear before fall or the next spring.

7. I don't know of such a place, but a small advertisement in this journal would likely give you the information.

## A Beginner's Questions.

I am wintering 12 colonies of bees outside this year, in single-walled hives. I removed the air-tight oil-cloths last November, and replaced them with coarse sack-cloths, filling the upper story with dry wheat-straw, also dry wheat-straw and oats covered the hives, on all sides except the front. The water-tight covers are over all. I feel that is right, as I read the Langstroth book.

1. Should the coarse sack-cloth be removed and replaced with oil-cloth next March, or is it better to keep on the coarse sack-cloth till May?

2. Can I feed water to bees without sweet foods next March?

3. Why is rye-flour put into the hives in March?

4. Where can I put rye-flour into bee-hives?

5. Which do you like to keep better, a two-story colony, or a one-story?

6. Has a two-story colony always two queens—one in the upper chamber, and the other queen in the bottom?

7. I put a heavy canvas over the bee-entrances for sheltering from cold winds. Is it right? When warm days come I open the canvas. Should I put the canvas over the entrances in cold weather?

8. I want 2 queens in a two-story colony. Should I put a honey-board between the two stories?

9. Do you remove drone-cells in April?



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10. Are drone-cells larger than worker-cells?  
INDIANA.

ANSWERS.—1. If the bees have plenty of food, better not disturb them till warm weather. No harm if the packing is left on till May or June.

2. Yes, bees will take water without any sweet in it, and they will be likely to go after water about as soon as the weather is warm enough for them to fly. It is a good plan to have water provided close at hand, so they need not have to fly far for it with the risk of getting chilled. A good way is to have a vessel of water in a sheltered or warm place near the apiary, with 2 or 3 inches of cork-chips on the water. You can get the cork-chips from any grocer who has grapes come in kegs, as generally he throws them away.

3. Rye-flour and other meals are given to the bees as a substitute for pollen.

4. If you want to put it in the hive, you can sprinkle it into the cells of a comb. But it is not generally put in the hive, but outside. Put it in a shallow dish or box outside in the sun, and if the bees are in need of it they will take it from there. But if they can get plenty of natural pollen they are not likely to touch the substitute.

5. Unless a colony is very strong, one story is enough for it. If strong enough, it can have 2 stories up to the time of the harvest, when one brood-story will be left.

6. No, there is only one queen.

7. Such shelter answers a good purpose; only it must not be so close as to hinder the free entrance of air into the hive.

8. There must be a queen-excluder between the 2 stories. Even then you will likely find one of the queens missing before a great while.

9. Drone-comb may be cut out any time after it is warm enough for the bees to be flying freely. But the bees will be likely to build drone-comb in the vacancy unless you fill in patches of worker-comb or comb-foundation.

10. Yes, drone-cells measure about 4 to the inch, and worker-cells 5 to the inch.

## Candy-Cakes for Winter Feeding.

Last season (1911) was a total failure as to the honey-crop, and the bees hardly got enough to live on during the summer, and consequently did not get any stores for winter use. I started to feed them syrup the last part of September and the first of October, but on account of my business keeping me away from home most of the time, the feeding became very insufficient, and unless the bees are fed in some way soon, they will starve before spring opens, which here is not until May. Will it do to take granulated sugar mixed in honey, make it into quite solid candy, roll it out nearly the size of the top of the hives, and lay the candy flat over the top-bars, and cover it with cloth or gunny-sacks? I keep my bees in the cellar in a dark place, where the temperature during the winter varies from 36 to 45 degrees. I have kept bees for 3 winters, and they have always come out in nice shape, but they have always had plenty of stores before. I have 16 colonies. This country is probably not the best honey-producing country, but last year (1910) I got from 50 to 100 pounds per colony.

I do not know whether the above suggested feeding will work or not, but I thought this way would be least disturbing to them. Possibly the candy will melt and run down on them. The colonies are small so the heat will probably not

be very great. I have no frames with honey, and cannot get them.

MINNESOTA.

ANSWER.—You're all right in your plan. The only question is: How do you mean to make that candy? If you mean to heat it so as to melt both honey and sugar and make it into a "solid candy," all right; only be very careful you don't overheat it. It will be cheaper to let the bees starve than to kill them with scorched candy. If you mean to make so-called "Good" candy, all right again, provided you don't do exactly as you say, but use powdered sugar instead of granulated. Maybe you'll get it under the name of confectioner's sugar. It would do to use granulated sugar, only it may be too wasteful, for the bees are likely to reject the coarse

grains of the granulated. No doubt you have books that tell you just how to make this candy, but it may be no harm to give a few hints.

You can make it by using the honey cold, merely mixing the honey with the fine-grained sugar, but there is danger, especially in cold weather, that you will not get enough sugar kneaded in, and then the candy may become thin afterward and run down. It is better to have the honey warm—hot, if you don't scorch it—and then stir in all the sugar you can. When you have stirred in all the sugar you can, then knead some more in. Then let the candy stand in a warm place 2 or 3 days and you will find you can knead in some more.

## REPORTS AND EXPERIENCES



### Cans of Hot Water in the Bee-Cellar

Honey was a failure with me last year; too much rain. It rained nearly the whole season, but we had a fall flow, so my bees filled their hives for the winter. I put in the cellar 100 colonies, and ever since New Year's Day I have had to fight to keep the temperature at 46 degrees. I put in the cellar 5-gallon cans of hot water, night and morning, and I succeed in keeping the temperature at 46 degrees. The warmest it has been outside in the last 10 days is 4 degrees below zero, and 47 and 50 degrees below 1 times, but most of the time 35 below, and some days with a gale of wind. Yes, it is cold!

Robbins, Wis.

### Nectar-Dearth and then Severe Cold

Hemmed in between city houses I have 15 colonies of the finest Italians hereabouts. But immediately after a cold snap of 20 degrees below zero, a heavy snow fell closing the fronts of the hives for several days. After the cold spell a pint or more of dead bees lay on the bottom-boards, which I scraped out with a yard-stick. Of course, I take it that the cold killed the bees, as they had abundant stores, but have wondered if the snow closing the entrances may have conducted to the wholesale slaughter. Last summer's dearth of nectar, with this winter's severe cold, has been a severe test for bees, although I have hives wrapped with tar-paper, and supers filled with autumn leaves and grass. Some of my colonies were weak in the fall, but all have pulled through so far.

Mrs. FREDERICK GRIFFITH.  
Kansas City, Mo., Feb. 1.

### Cold Weather—Feeding Bees Loaf Sugar

Beginning with the last day of December, and continuing for two weeks, the mercury fell below zero every night but one. The range was from 4 degrees below to 32 below. Last Sunday morning it was a few degrees above, but on Monday morning it was 20 below. Since then the weather has warmed up a little. There is considerable snow on the ground, and there has been much drifting. The entrances of my bee-hives have been closed with snow most of the time, and I did not make any great haste about removing it. Yesterday, and a few times before, I lifted the cushions and quilts of some hives in order to note the conditions, as far as a momentary glance would enable me to do so, and to insert a little feed right over the cluster. In order to do this I needed to raise only one end of the covers for an instant, and then they were dropped back. I found the bees much livelier than I expected, and also found they had not lost their disposition nor ability to sting. The interview was so short, and the weather so cold I had not thought they would welcome me in that way.

The feed I gave was, at first, cube loaf-sugar slightly moistened, about a quart to the colony, but the supply failed and there was none in town. Then I went to giving un-

finished sections that had honey in them but shall return to the cube loaf-sugar as soon as I can get a supply from Chicago. The grocery men here have the face to ask 12½ cents a pound for it. A mail-order house's price is \$1.60 for a 25-pound sack, and a trifle more per pound in smaller lots.

I do this feeding as a precautionary measure. Some colonies do not need it, and some may. You do not know which is the needy one, and can not find out at this time of the year.

Leon, Iowa, Jan. 18.

### Entire Failure from Dry Weather

The past season was almost an entire failure. In the middle of the season we were obliged to feed to keep the bees from starving. I have fed 20 pounds of sugar and honey to all (each colony) of my bees for wintering. Forty years ago we had a similar experience. This is owing to dry weather.

Lee, Mass., Dec. 20.

A. BRADLEY.

### Following Up Experiments

While it is not best under all circumstances to try everything we read in the bee-papers, the fact still remains that "in a multitude of counsellors there is wisdom," and it only remains for the recipient to use it properly. If no one had thought enough of Benjamin Franklin's experiments to have followed them up, see the conveniences this age would have lost.

Rocky Ford, Colo., Jan. 8. A. S. PARSON.

### A Badly Bee-Diseased County

Monterey county is rotten with foul brood at the present time, and all our bee-keepers will lose considerable. We have a county bee-inspector who has no advice to give in the least, or rather knows nothing about any bee-disease whatsoever, and is about 10 years behind the times. The only thing he can do very well is to destroy an apiary when no one is at home, by ransacking every hive and turning them inside out looking for disease, and knows nothing after doing so; while the average apiary is as nearly rotten with foul brood as it could be throughout the county. Almost all the bee-keepers have the common California black bees, and they go like hot-cakes when anything hits them. Nearly all have the common cracker-box hives. The American Bee Journal is the only thing that does the bee-keeper any good. Some inspectors know nothing, and at the same time rob the county of so much.

Salinas, Calif., Jan. 8. WM. F. HACKMAN.

### Done With Sealed Covers

The winter of 1911-12 will long be remembered by the bee-keepers of this locality. For one thing, it has forever knocked the sealed-cover business in the head for me. I winter (and have for years before without the loss of a single colony) with a feeding-board over the colony with 2 holes for feed-

# American Bee Journal

ing in the board. The deep hive-caps are packed with chaff. Last fall over some of the holes I had propolized cloths; 8 colonies so fixed smothered. The bees had broken cluster and were scattered over the hive—very large colonies, too, with plenty of honey. The combs were iced and frozen. No more sealed covers for me.

I hear of very heavy losses here. One man with 28 colonies has only 6 alive now. For one thing, the honey here is very bad. There was lots of honey-dew last year, and, of course, the effects of that will come later on, but it is snowing now, and there is so much snow around it's too cold for a good flight. I hate to write so discouragingly, but every bit of white clover is killed here. Well, white clover always comes back, and I look for a good year in 1913. We must take the bad with the good in this life, and be thankful for it might be much worse.

Marceline, Mo. IRVING E. LONG.

## Early Swarming in California

What do you think of bees swarming on the 23d of January? A bee-keeper of San Rafael, Calif., asks why the bees should swarm with a few eggs, no larva, or sealed brood, and just a little store of honey. The writer had to "fess up," it was too much for him.

We have had some fine rains, and hope the entire State has been having the same kind of rainfall, as some of the bee-keepers are beginning to fear a poor season, etc. We had two spells of hail, and only for a few moments, but no damage. We also had two distinct crashes of lightning with the following of severe and deep thunder—a very unusual proceeding in this section of the country; to my knowledge this is the 4th electrical storm since September, 1908. Not many, is it? And the natives prefer earthquakes to cyclones or thunder-storms, any time.

The bees are bringing in plenty of pollen, and as the almond trees will soon be in bloom, the season for some early honey will be at hand. With early feeding it would be an easy matter to have some nice section honey by the middle of March.

The hyacinths, crocuses, tulips and lilies are all out; in fact, we could have the calla lily to bloom all the year around, with a little extra care and attention.

J. C. FROHLIGER.

Berkeley, Calif., Jan. 26.

## An Encouraging Canadian Report

The past summer has been a rather poor one in this part of Ontario. The weather was too hot and dry for the honey-plants to yield much honey. I had 10 colonies to start with in the spring of 1911. They stored about 500 pounds of surplus honey, about 100 sections of comb, and the rest of it extracted, besides 7 new colonies as an increase. I had only 2 natural swarms. Two of my best colonies stored 120 pounds of surplus honey. I had all the honey sold before Christmas. I sold over \$20 worth of honey this year around home. Before I started bee-keeping I don't think there was one dollar's worth consumed around here. I sold \$1 worth to a lady who keeps a little country store about a mile from our place. She had some honey to sell before she got mine, but she couldn't sell it, so that made it very difficult for me to persuade her to take mine, but at last I told her if she couldn't sell it in a reasonable length of time I would take it back, so she took it and sold it in a short time.

This year I put my honey in flint-glass jars with metal screw tops. I used two sizes; one holds  $\frac{3}{4}$  pound, and the other  $1\frac{1}{2}$  pounds. When these are put up with a neat label they look very tempting, and sell like hot-cakes.

I use some full-depth Langstroth hives, and some divisible ones, and I hardly know which is the better. My hives are all single-walled, but I'm going to make some chaff ones this winter. I have 20 colonies packed in winter quarters. This is the way I pack them:

About the last of September I look through the colonies and see that each one is strong in bees, and has about 35 or 40 pounds of good honey or syrup. Then about two weeks later I go to one end of the row of hives and take off the cover and quilt and lay sticks, 10 inches long and  $\frac{1}{2}$  inch square, over the tops of the frames; then lay 2 or 3 thick-nesses of burlap 16x20 inches over, and put on a full-depth super, and fill it nearly full of chaff. I then put on the cover and wrap the hives, sides and tops, with tar-paper, one ply thick, and fasten it with laths and

small nails. I leave the entrance  $1\frac{1}{4}$  inch. I find this a very satisfactory way of wintering bees. I remove the packing about the first of May.

I owe a good deal of my success to the American Bee Journal, and wish it every success.

R. R. VICTOR TIPPETT.  
Quays, Ont., Jan. 11.

## Cool Weather in California

We are having extremely cool weather here this winter, the coldest for many years, and no rain to amount to anything as yet.

M. H. MENDLESON.

Ventura, Calif., Dec. 30.

## Buckwheat Yield—Cyprian-Carniolan Bees

In the American Bee Journal for December, 1911, on page 358, there is a difference mentioned as to nectar in buckwheat. Its yield is all day if the sun does not shine. Take a hot, cloudy day and the bees will gather through the day. I lived on a farm from 1863 to 1867. We had a field of 9 acres so that the snow-water would fill every spring in half of this field. So we would sow it to buckwheat. About 1875-6 we had this lot all in buckwheat. When in bloom we had 3 days of cloudy, hot weather, and the bees worked from morning until dark. But when the sun began to shine again you could not see a bee after 9 or 11 o'clock a.m. I never saw bees filled so heavy with nectar as in those 3 days. We could smell it 50 feet from the hives.

Late in September, 1909, I bought a Cyprian queen, but it turned out to be a Cyprian-Carniolan. I did not see any drones or workers until May 20th, then there were drones by the thousand—two drones to one worker. The workers had 2 narrow bands; drones were dark gray on the upper side of the abdomen, but a little yellow under. The last day of June she came out with a prime swarm; on the 8th and 10th of July the second and third swarms; on the 20th of August, from hive 10 with 1st, 2d, and 3d swarms, and did not fill one section of honey for myself. In 1910 and 1911 the old queen led a swarm. I hived them in hive No. 11 on dry comb, but not one section of honey did I get. All they are good for is drone-laying workers and drones. Here is a list of drones caught in cages in 6 days:

Hive No. 15—117, 144, 225, 260, 315; total, 1061.  
Hive No. 11—308, 400, 500, 370, 105, 467; total, 2250.

They are great to rob; have been robbing all summer—not a day but what they can be seen around other hives.

E. TUCKER.  
Bergen, N. Y.

## Stimulative Feeding

In July, 1911, at my last extracting I found on a comb in a super a very fine capped queen-cell. I then went to 2 very strong colonies and took from each a frame containing mostly larva and sealed brood, and put them above in the same colony about 10 a.m., and left them there until 2 p.m., so as to get them covered with nurse-bees while the fielders were busy.

I then went to another vigorous colony, put a queen-excluder over the brood-chamber, and after taking 3 frames from its super I put in the 2 frames of larva and sealed brood, also one frame with a queen-cell, thereby getting the heat of the colony below. In a few days I had as fine a queen as I ever saw, the attendants being mostly young bees that knew no other mother, and would stay with her. I put the 3 frames with 2 frames of honey and filled the balance of the space in a hive-body and set it on a new stand. In due time she took to business in Roosevelt style!

In September, the honey-flow being over, she quit laying, and I then put under an Alexander feeder; then true to their natural instinct they stored all around the brood-nest to have it handy next winter.

One night I lay awake studying a way to "turn the trick." During the day I had put some honey-washings in an old coffee-can. In the morning I found the can turned over and slowly leaking, and then said to myself: "I have to put the lid on tight and punch in a few holes and insert it over the brood-nest." I awaited results, which came in a small stream out of the front of the hive. Defeat No. 1. I kept on punching can lids until I had one with so small holes that it dropped only 30 times in a minute. With this source of supply they had no sweets to store, but the queen took it for granted that

another honey-flow was on and resumed laying, there being an empty frame in the super. One morning, when feeding, I found 2 bits of comb started. I kept on feeding sweetened water, and the bees continued to work, and soon the whole frame was filled with sealed brood. Together we played the game through October and November, when I became tired, and then there was "nothing doing." This is one way to rear bees in Sunny California.

As an experiment in November, I selected 3 colonies as nearly alike as possible in stores, number of bees, and otherwise—Nos. 15, 41 and 43. At that time none of them were laying, but in 8 days the fed ones 15 and 43 had eggs in 3 frames. Here in early March bees gather pollen from the willows, and April 1st I will commence stimulative feeding of the 2 colonies, then compare their condition with No. 41. Many claim that stimulative feeding is a waste of bee-energy. Here our honey-flow usually begins about May 25th, and lasts from 4 to 6 weeks, according to the season. About April 15th I wish to feed so as to get the queen "on to her job," and have the hive boiling over with bees at the beginning of the honey-flow. If no feeding is done, and the weather is cold and wet, they will not build up much until the honey-flow is on. From the beginning of the queen laying to the hatching of bees, 21 days, and if nurse-bees, 15 days longer. How long have they to go a-field before the honey-flow is over? Then I have a hive full of bees to consume what little nectar the old bees have stored. Is not this good logic?

If my experience will be of any interest I will keep notes and report results at the close of the next season.

E. P. ST. JOHN.  
Descanso, Calif., Dec. 29.

## Drones Mating with Young Queens

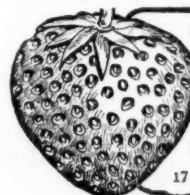
I think T. W. Livingston, of Leslie, Ga., is "at sea" about drones mating with young queens. Let me say what I have seen in my bee-yard. I do not write about so-called Italian bees, as they are of two distinct races. I have never seen any Italian queens but their drone progeny always varied from 2 bands to a black drone. Where is the queen-breeder that can breed queens that will bring forth all 3-banded drones and workers, not black drones? It can not be done. Do breeders take a black rooster to rear a strain of white chickens? No; I know it can not be done.

Adel, or yellow Carniolan bees, I have bred since 1902—the best bee I have had. I will describe a pure breeding queen of the Adel: She is yellow, and the abdomens of her workers and drones are pure yellow without any black edges on the segments of the abdomen. To prove she is pure we will breed 12 young queens from her worker-eggs. If those 12 young queens' drones are as yellow as the mother queen, she is pure. Those 12 young queens have mated, and mine have mated with pure drones, and their drones and workers are marked as the mother queen's drones and workers, pure yellow to tip, without any black edges on the segments of the abdomen.

Three of those 12 queens were mismated, one with a black drone. The workers vary in color from a bright yellow to a black worker, but her drones are yellow and pure as the mother queen's. Suppose you allow this queen to lead a prime swarm. Her drones are pure wherever she goes. But her young queens, drones and workers will be yellow and black. The other 2 queens have mated with mongrel drones. There will be all colors or shades, but no blacks. Don't allow any young queens to live of those hybrid queens. This is where we get our mixed stock. If you have a pure mother-queen, as I have described, rear young queens regardless of what drone they may mate with. Their drones are pure, so every colony you give a yellow queen to, your stock is yellow drones. When you give each colony a yellow queen, and have yellow drones flying, go over with pure stock, and cull every queen that is not up to the standard.

New York State.

H. B. MAN.



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# American Bee Journal

## Wants, Exchanges, Etc.

[Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind. Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.]

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C. W. Dayton, Chatsworth, Cal.

WANTED—by an expert—bees on shares, or to buy bees. Michigan preferred.  
Boyd F. Howard, Union Center, N. Y.

FOR SALE.—Bees, honey, and bee-supplies. We are in the market for beeswax and honey. 5Atf Ogden Bee & Honey Co., Ogden Utah.

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INDIAN RUNNER Duck Culture Book. Information that beginners are looking for. (Special price, 50 cents.) George W. York & Co., 117 N. Jefferson St., Chicago, Ill.

THREE MONTHS' TRIAL for 15 cts. for the bee-journal that "Grandpa" can read. Large type. New cover design. Eight extra pages. The Bee-Keepers' Review, 230 Woodland Ave., Detroit, Mich.

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FOR SALE—California bee-ranch; first-class apiary; concrete buildings in excellent repair; good spring water and healthful climate; a comfortable home near the cleanest town in the United States at moderate price. H. E. Wilder, Riverside, Calif.

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COMPLETE COMB HONEY OUTFIT for 1000 colonies, consisting of 400 Colonies of Bees in good condition. Hives with worker-combs, supers filled with sections, etc. Correspondence solicited from parties meaning business. Address, Frank Rauchfuss, 1430 Market Street, Denver, Colo. 1A3t

WANTED—A married man to run on shares, an apiary and vineyard. Have 2-room house, 5 acres irrigated land planted in grapes, figs, apricots, peaches, blackberries, and other fruit; 72 colonies of black and Italian bees in 8 and 10 frame hives; also outfit for extracted and section honey. Good climate for bees. Write me for any further information desired, and give experience, etc. Address, Wm. Winkler, Aldama, Est de Chihuahua, Mexico.

BUFFALO, Leon Co., Texas—Golden and 3-banded Italian Queens. Shipments will begin March 15th. Tested Queens, \$1.00 each; 3 Queens, \$2.75; 6 or more, 85 cents each. Untested, 75c for one; 3 Queens, \$2.00; from 6 to 50 Queens, 65 cents each. I guarantee all Queens to give satisfaction. For larger lots of Queens, write for special prices. If Queen arrives dead, send her back and I will send another. Bees and Nuclei. Bees per pound, \$1.00; Nuclei, per frame, \$1.25. 2Atf C. B. BANKSTON.

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Standard hives with latest improvements, Danzenbaker Hives, Sections, Foundation, Extractors, Smokers; in fact, everything used about the bees. My equipment, my stock of goods, the quality of my goods and my shipping facilities can not be excelled.

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WALTER S. POUDER, Indianapolis, Ind.

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Wisconsin Convention.—The 33d annual convention of the Wisconsin State Bee-Keepers' Association will meet in the Supervisors' Room at the Court House, Madison, Wis., Feb. 20 and 21, 1912, beginning at 10 a.m. Tuesday.

Headquarters of the bee-keepers is usually the Simons Hotel—a clean, moderate-priced house. To secure a room, it will be necessary to write a week ahead of time, and enclose \$1.00 in your letter.

We invite every member to renew his membership. We invite every bee-keeper to become a member.

Augusta, Wis. GUS DITTMER, Sec.

## Honey to Sell or Wanted

WANTED—Choice extracted white and amber honey in barrels or cans. Send sample, and price delivered f. o. b. Preston. 11Atf M. V. Facey, Preston, Minn.

FOR SALE.—Absolutely pure California sage extracted honey; several cars white and light amber, in 60-lb. tins, two tins to a case. Write us for samples and prices.

Rather Bros., Managers, Hemet Valley Bee-Keepers' Association, 7Atf Hemet, Cal.

## Crown Bone Cutter

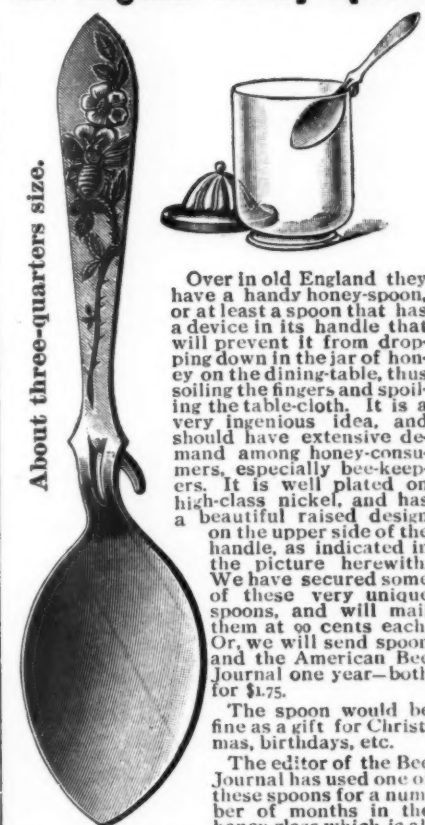
FEED your hens cut green bone and get more eggs. With a Crown Bone Cutter you can cut up all scrap bones easily and quickly, and without any trouble, and have cut bone fresh every day for your poultry. Send at once for free catalogue. WILSON BROS., Box 814, Easton, Pa.

Please mention Am. Bee Journal when writing.

## "Langstroth on the Honey-Bee"

This is one of the standard books on bees. It tells in a simple, concise manner just how to keep bees. It was originally written by Rev. L. L. Langstroth, who invented the movable-frame hive in 1851. The book has been brought right down to date by Dadant & Sons, than who there are no better or more practical bee-keepers in this or any other country. It contains nearly 600 pages, is fully illustrated, and is bound in cloth. Every topic is clearly and thoroughly explained, so that by following its instructions no one should fail to be successful with bees. Price, postpaid, \$1.20; or with the American Bee Journal one year—both for \$2.00. Send all orders to the American Bee Journal.

## An English Honey-Spoon



About three-quarters size.

Over in old England they have a handy honey-spoon, or at least a spoon that has a device in its handle that will prevent it from dropping down in the jar of honey on the dining-table, thus soiling the fingers and spoiling the table-cloth. It is a very ingenious idea, and should have extensive demand among honey-consumers, especially bee-keepers. It is well plated on high-class nickel, and has a beautiful raised design on the upper side of the handle, as indicated in the picture herewith. We have secured some of these very unique spoons, and will mail them at 90 cents each. Or, we will send spoon and the American Bee Journal one year—both for \$1.75.

The spoon would be fine as a gift for Christmas, birthdays, etc.

The editor of the Bee Journal has used one of these spoons for a number of months in the honey-glass which is always on his table, and he would not like to be without this spoon again, as it is so convenient and also unusual in this country. We can fill orders promptly now. You certainly would be pleased with this honey-spoon, and so would any one to whom you might present it. Send all orders to,

GEORGE W. YORK & CO.,  
- CHICAGO, ILL.

Please mention Am. Bee Journal when writing.

## "Scientific Queen-Rearing"

No other book compares with this one written by Mr. G. M. Doolittle. He is an expert in the business. It tells just how the very best queens can be reared. Bound in cloth. By mail, \$1.00; or with the American Bee Journal, one year—both for \$1.60. In leatherette binding, 75 cents, postpaid; or with the American Bee Journal one year—both for \$1.25. Send to the American Bee Journal.

# American Bee Journal

## Best White Alfalfa and 2d-Hand Cans

Every bee-keeper should see to it that all who want honey in his locality are able to get it. When your own honey is all sold don't fail to send somewhere else for more, and thus keep the local trade supplied. We have a large quantity of the **Best White Alfalfa Honey** in new 60-pound cans, two cans in a box, which we can ship promptly at the following prices:

One box of 2 cans (120 pounds of honey) at 10 cents per pound; 4 or more cans, at 9 3/4 cents per pound—all f. o. b. Chicago.

Better order at once, as this grade of honey is not at all plentiful. Winter is just the best time to keep your local customers well supplied. They will like this fine Alfalfa honey, for it is "licking good."

We have a lot of Second-Hand 5-gallon Tin Cans that we have emptied ourselves, so we know they are clean and good. They are all right to use again. We have them crated in various size crates, and, in lots of 25 cans, will let them go at \$2.50, or 10 cents each, f. o. b. Chicago. If wanted 2 empty cans in a box, we will furnish them in lots of 10 or more boxes at 30 cents a box, so long as they last.

In buying the **crated** second-hand cans the buyer can make boxes for them if desired out of any odd lumber he may have about his place.

These cans certainly are a bargain. You can get them now and keep them in a dry place until next season when you will likely have need of them. We have a limited number of these second-hand cans, so you better order early.

## National Honey Company, 117 North Jefferson St., Chicago, Ill.

### "Bee-Keepers' Guide"

This book on bees is also known as the "Manual of the Apiary." It is instructive, interesting, and both practical and scientific. On the anatomy and physiology of the bee it is more complete than any other standard American bee-book. Also the part on honey-producing plants is exceptionally fine. Every bee-keeper should have it in his library. It has 544 pages, and 295 illustrations. Bound in cloth. Price, postpaid, \$1.20; or with a year's subscription to the American Bee Journal—both for \$1.90. Send all orders to the office of the American Bee Journal.

**American Bee Journal for 1911.**—We have a number of complete volumes of the American Bee Journal for 1911, which we offer for 60 cents for the 12 numbers, as long as they last. Or, should there be among our subscribers those who would like to have any copies of the American Bee Journal for 1911 to complete their volume or otherwise, we will fill such orders at 5 cents per copy. Address all orders to, Geo. W. York & Co., 117 N. Jefferson St., Chicago, Ill.

**"A Year's Work in an Out-Apiary"** is the name of a booklet by G. M. Doolittle, the well-known honey-producer of New York State. He tells how he secured an average of 114 1/2 pounds of honey per colony in a poor season. It is fully illustrated, and tells in detail just how Mr. Doolittle has won his great success as a honey-producer. The price of the booklet is 50 cents, postpaid, but we club it with the American Bee Journal for a year—both for \$1.30. Every bee-keeper should have a copy of this booklet, and study it thoroughly. Address all orders to the American Bee Journal, 117 North Jefferson St., Chicago, Ill.

## Eggs and Honey are Great Twin Crops

**EVERY** man or woman who raises bees ought to raise chickens. The two industries belong together. The spare time from one fits nicely into the other. Whether or not you own an incubator—if you are thinking seriously upon the poultry subject, please write today for

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This is the most complete, interesting and helpful Year Book we have ever gotten out. 244 pages, 7 1/2 x 10 inches—profusely illustrated. And it's full to running over with sound, practical information and suggestions. For example, it contains eight chapters of information never before pub-

lished, of immense value. The chapters are:

I—How to Get Twice as Many Eggs from the Same Number of Hens. II—The 200-egg Per Year Hen—How to Produce Her. III—Large Sized Eggs in Demand As Well As Lots of them. IV—Mating and Feeding of Fowls to Get Fertile Eggs. V—Selection and Care of Eggs for Successful Hatching. VI—Proper Care of Fowls and Chicks With Least Amount of Work. VII—How to Brood Chicks Properly at the Lowest Cost. VIII—Premium-Price Table Poultry and How to Produce It. This big, free book fully illustrates and describes—

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Gives the convincing reasons why they are the choice of more fanciers of national reputation—more of the world's leading poultry plants, more Government Experiment Stations and more State Agricultural Colleges than all other makes combined. It also tells the full facts about

### Cyphers Company's Service

which places in the hands of our customers the best poultry facts and poultry advice we can possibly turn out in personal letters, in bulletins, booklets, etc. Working with the customer for his or her success after a machine has been bought has been a cardinal principle of Cyphers Company's Service. The new department is a further development along this line.

**Cyphers Incubator Company, Dept. 83. Home Office, Buffalo, N. Y.**

**BRANCHES:** New York City, 23 Barclay St. Boston, Mass., 12-14 Canal St. Chicago, Ill., 340-344 N. Clark St. Kansas City, Mo., 317-319 Southwest Blvd. Oakland, Cal., 1569 Broadway. London, England, 123 Finsbury Pk.

Cyphers Company's Service is founded on the results of fifteen years of hard work, close study and heavy cash investments—on the experience of tens of thousands of customers, on the daily knowledge we gain at the Cyphers Company's \$50,000 Experiment and Demonstration Poultry Farm—and on the reports of contests held to discover the most practical experiences in poultry raising.

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# White Sweet Clover Seed

Sweet Clover is rapidly becoming one of the most useful things that can be grown on the farm. Its value as a honey-plant is well known to bee-keepers, but its worth as a forage-plant and also as an enricher of the soil are not so widely known. However, Sweet Clover is coming to the front very fast these days. Some years ago it was considered as a weed by those who knew no better. The former attitude of the enlightened farmer today is changing to a great respect for and appreciation of Sweet Clover, both as a food for stock and as a valuable fertilizer for poor and worn-out soils.

The seed can be sown any time. From 18 to 20 pounds per acre of the unhulled seed is about the right quantity to sow.

We can ship promptly at the following prices for the white variety:

Postpaid, one pound for 30 cents, or 2 pounds for 50 cents. By express f. o. b. Chicago—5 pounds for 80c; 10 pounds for \$1.50; 25 pounds for \$3.50; 50 pounds for \$6.50; or 100 pounds for \$12.00.

If wanted by freight, it will be necessary to add 25 cents more for cartage to the above prices on each order.

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## LIGHT UP!

You can transform any kerosene (coal oil) lamp or lantern into dazzling brilliancy with our wonderful **Bright Light Burner**. 50 candle power invisible and **unbreakable Steel Mantle**. Brighter than electricity, better than gas or gasoline, and **perfectly safe**. No generating—simply light like any kerosene lamp. Nothing to get out of order. Positively will not smoke or flicker.

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## Carniolan Alpine Queens GRAY WORKERS

Select Tested Queens—March, April, May, \$5.00; June, July, August, \$3.50.

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Shipped to all parts of the world, postage free. Safe arrival guaranteed. International Money Order with every order. Dead queens replaced if returned in 24 hours after arrival. References in respect to financial and commercial responsibility of the undersigned Association can be had at every Imperial-Royal Austro-Hungarian Consulate in the United States and Canada.

Write for our booklet. Orders for Nuclei and Hives can not be filled until everything concerning this line of business is arranged properly.

Remit money order, and write English to the—

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**Dr. Peiro** will continue to give the readers of the American Bee Journal free advice regarding the subject of **SURGICAL and MEDICAL** treatment. Many have availed themselves of this offer. Return postage is all you need to send. Address, **DR. PEIRO, 2148 Sunnyside Ave., Chicago, Ill.**

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Choice Home-Bred and Imported Stock. All Queens reared in full colonies.

Prices for April

One Tested Queen....	\$1.85
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Safe arrival guaranteed.

For prices on larger quantities and description of each grade of Queens, send for Free Catalog. Send for sample Comb Foundation.



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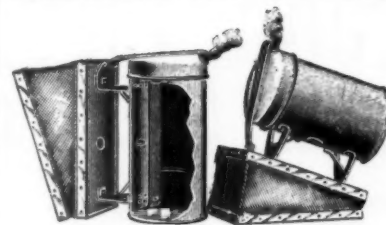


Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey-racks, 500 brood-frames, 2,000 honey-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

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3½X6 INCHES.

Shown above in a standing and reclining position. In the latter the grate is under, that it may have a full head of smoke ready on the job at a touch of bellows.

The perpendicular **Fire-Draft Grate**, forcing air **both ways**, makes and cools the smoke, forming a **Double Fire-Wall** for **securely riveting the double-braced brackets** to the cup, that is **firmly bolted to the valveless bellows by Locked Nuts**.

The **One-Piece cap can not clog**. It is the **coolest, cleanest, strongest, best, and largest net capacity** of all smokers, selling at one dollar (\$1.00). We guarantee satisfaction.

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Both COMB and EXTRACTED

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American Bee Journal

## LEWIS BEEWARE—Shipped Promptly

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**Send for Catalog.**

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THE SECRET OF  
**Success in Bee-Keeping**  
Is to Keep Your Colonies Strong; to do This You Must Have  
**GOOD LAYING QUEENS**

**Which We Guarantee at the Following Prices:**

**Golden 3-Band Italian Carniolan**

**Untested**—1 for \$1.00; 6 for \$5.40; 12 for \$9.60; 25 for \$17.50

**Tested**—1 for \$1.50; 6 for \$8.40; 12 for \$15.60; 25 for \$30.00

**Nuclei with Untested Queen**—1-frame, \$2.50; six 1-frame, \$15.00

"	"	"	"	-2 frame, \$3.50; six 2-frame, \$20.40
"	"	<b>Tested</b>	"	-1 frame, \$2.00; six 1-frame, \$17.40

Tested		
—1 frame, \$3.00; six 1-frame, \$17.40		
—2 frame, \$4.00; six 2-frame, \$23.40		

—2-frame, \$4.00, Six 2-frame, \$23.40

The Drones used in our Apiary for Mating purpose are reared from the very best selected Queens, which is as necessary as the selecting of a good Queen for Queen-Rearing. For good Queens and quick service you can not do better than place your order with us. We guarantee safe arrival and satisfaction. Directions for building up weak Colonies will be mailed to you for 10 cents.

The above Queens are all reared in **Separate Yards.**

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## Famous Queens!

**From Imported Stock.**

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Not inclined to swarm, and as for Honey-Gathering they have few equals.

Three-band, Golden, and Carniolans—ready March 20th. Untested, \$1.00; 6 for \$5; 12 for \$9. Tested, \$1.50; 6 for \$8; 12 for \$12.00. Breeders of either strain, \$5. For Nuclei, write.

Safe arrival and satisfaction gurranteed.

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*Poultry Profits Doubled*

**WEAPONS** bring the largest profits — 100% more than other poultry. Caponizing is easy and soon learned. Capons sell for 30c. a pound, while ordinary poultry brings only 15c. a pound. Progressive poultrymen know these things and use

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Sent postpaid, \$2.50 per set with  
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Marker, 25c. Gape Worm Extractor, 25c. French  
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you save money at the rate of 12 percent on the \$.**

**THREE PERCENT** is the amount of our early order discount on cash purchases in January. January to April is just three months— $\frac{1}{4}$  of a year. Now 3 percent for 3 months is interest at the rate of 12 percent per year—so you see why we urge early orders accompanied by cash **this** month.

**ANOTHER** reason is that we can serve you better now than three months hence. In a few weeks we will be putting up carload shipments for our dealers and distributing centers, and every effort in our big plant—the largest establishment in the world devoted to the manufacture of bee-supplies—will be directed to filling rush orders. You will be just as anxious for your goods as our other patrons, and will deserve and receive the same attention—no matter what the amount of your order may be, but

## We can Serve you Better Now

and we want to make it worth your while to place an early order. Try this on a part of your list anyway. Saving at the rate of 12 percent per year ought to interest everybody.

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Get our 1912 catalog which gives descriptions, illustrations and prices on everything from bee-hives to bee-books, from frames to comb foundation. **Get this Catalog NOW.**

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# American Bee Journal

## P-O-R-T-E-R



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SAVES { **TIME**  
**HONEY**  
**MONEY** } At All  
Dealers

Each, 15c.; Dozen, \$1.65, postpaid.

If your Dealer does not keep them, order from Factory, with Complete Instructions.

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### Special Prices on Bee-Goods For 60 Days. Dovetailed Hives



1½-story, \$1.35 each. Hoffman Frames, \$2.25 per 100. Just make us a Bill of the Goods you might need for 1912, and we will quote Lowest Prices. We make all kinds of Bee Goods. **FINE QUEENS** at all times to be had. Untested, 75 cts.; Tested, \$1.00.

**CHESTNUT HILL MFG. CO.**  
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## Bee-Supplies

We are Western Agents for— 1Atf

### "FALCONER"

Write for Fall Discounts—we can save you money.

**C. C. Clemons Bee-Supply Co.**  
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## We Make a Specialty of Manufacturing SECTIONS

They are the Finest in the Land—  
None Better.

Our Prices will make you smile. We want to mail OUR BEE-SUPPLY CATALOG to every bee-keeper in the land. It is FREE. Ask for it.

**H. S. Duby, St. Anne, Ill.**, carries a full line of Our Goods, and sells them at our regular catalog prices.

**AUG. LOTZ & CO.**  
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These are very pretty things for bee-keepers or honey-sellers to wear on their coat-lapels. They often serve to introduce the subject of honey, which might frequently lead to a sale.

NOTE.—One bee-keeper writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one (of these buttons), as it will cause people to ask questions about the busy bee, and many a conversation thus started wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown above is a reproduction of a motto queen-button that we offer to bee-keepers. It has a pin on the underside to fasten it.

PRICES—by mail—1 for 6 cts.; 2 for 10 cts.; or 6 for 25 cts. Address,

**GEORGE W. YORK & CO.**  
CHICAGO, ILL.



This fine 90c Honey-Spoon and the American Bee Journal for one year—both for only \$1.75. Send all orders to George W. York & Co., 117 N. Jefferson St., Chicago, Ill.

**GEORGE W. YORK & CO.,**

**Chicago, Ill.**

**50,000 Copies "Honey as a Health-Food"**  
**To Help Increase the Demand for Honey**

We have had printed an edition of over 50,000 copies of the 16-page pamphlet on Honey as a Health-Food. It is envelope size, and just the thing to create a local demand for honey.

The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last is devoted to "Honey Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey as a food, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 90 cents; 100 copies for \$1.50; 250 copies for \$3.00; 500 for \$5.00; or 1000 for \$9.00. Your business card printed free at the bottom of front page on all orders for 100 or more copies.

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## MAKE HENS LAY

By feeding raw bone. Its egg-producing value is four times that of grain. Eggs more fertile, chicks more vigorous, broilers earlier, fowls heavier, profits larger.

### MANN'S LATEST MODEL Bone Cutter

Cuts all bone with adhering meat and gristle. Never clogs. 10 Days' Free Trial. No money in advance.

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## Bingham Smokers

Insist on **Old Reliable Bingham Bee-Smokers**, for sale by all dealers in Bee-Keepers' Supplies. For over 30 years the standard in all countries. The Smoker with a valve in the bellows, direct draft, bent cap, inverted bellows, and soot-burning device.

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Smoke Engine, 4 inch.....	\$1.25;	\$1.50
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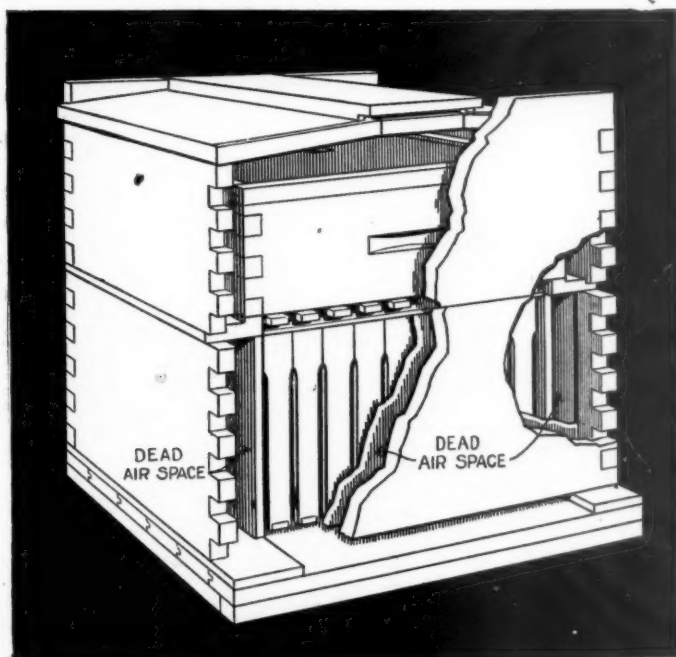
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## Protection Hives

The best and lowest price Hive on the market. This Hive has ¾ material in the outer wall, and is not cheaply made of ¾ material like some other hives. Send for circular showing 12 large illustrations. It will pay to investigate.



# American Bee Journal

## Results Count

When you buy **Comb Foundation** you look for **RESULTS**.

The Dittmer Process Comb Foundation is the right **SMELL**, the right **TASTE**, and the right **FIRMNESS** to give **Best Results**.

The Dittmer Process Comb Foundation is so like **Beeswax** the Honey-Bees would **SHAPE** and **MOULD** for themselves, it makes it very acceptable to them. This assures a **Full Capacity Honey Crop**, and remember, to you, Mr. Bee-Keeper, **Honey is Money**.

A **Liberal Discount** Offered on all **Supplies**.  
Write for Prices.

**Gus Dittmer Company, - Augusta, Wisconsin.**

### "The Honey-Money Stories"

This is a 64-page and cover booklet, 5 3/4 by 8 1/2 inches in size, and printed on enameled paper. It contains a variety of short, bright stories, mixed with facts and interesting items about honey and its use. It has 31 half-tone pictures, mostly of apiaries or apiarian scenes; also 3 bee-songs, namely: "The Hum of the Bees in the Apple-Tree Bloom," and "Buck-wheat Cakes and Honey," and "The Bee-Keeper's Lullaby." It ought to be in the hands of every one not familiar with the food-value of honey. Its object is to create a larger demand for honey. It is sent postpaid for 25 cents, but we will mail a single copy as a sample for 15 cents, 5 copies for 60 cents, or 10 copies by express for \$1.00. A copy with the American Bee Journal one year—both for \$1.10. Send all orders to the American Bee Journal.

### "Griggs Saves You Freight"

**- TOLEDO -**

Is the point to get Goods **Quick and at least cost.**

### 6 Per Cent Discount

This month. Send list of Goods needed and let us figure with you. Can take **Honey and Wax** in exchange for Supplies.

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BACK VOLUMES OF AM. BEE JOURNAL.—We have some on hand, and would be glad to correspond with any one who may desire to complete a full set. It may be we can help do it. Address, American Bee Journal.

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All necessary conditions for successful Apple and Fruit industry exist at the Company's property.

The Practical Apple-Man will appreciate the fact that the property of this Company is located on the Columbia River, about 70 miles north of the famous Wenatchee Apple District in the State of Washington. The utmost investigation is invited. For particulars write—

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**INSURES** your crop against **DROUTH**. Our experience in 1910 and 1911 has proved that good crops can be grown with less than eighteen inches of rainfall. Those who followed the **Campbell System** in 1910 had a crop in 1911.

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Campbell's publications explain the system.

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When you write ask about the **Campbell Correspondence School.** 8Atf

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Root's Supplies for Bee-Keepers.

Makers of Weed New Process Comb Foundation.

Buy Honey and Beeswax.

Catalogs Free.

**Toepperwein & Mayfield Co.**

Cor. Nolan & Cherry Sts.,

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## Mexico as a Bee-Country

B. A. Hadsell, one of the most experienced and largest bee-keepers in the world—has made six trips to Mexico, investigating that place as a bee-country, and is so infatuated with it that he is closing out his bees in Arizona. He has been to great expense in getting up a finely illustrated 32-page booklet, describing the tropics of Mexico as a Bee-Man's Paradise, which is also superior as a farming, stock-raising and fruit country. Where mercury ranges between 55 and 98. Frost and sun-stroke is unknown. Also a great health resort. He will mail this book FREE by addressing, 7At2t

**B. A. Hadsell, Lititz, Pa.**

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### Early (FROFALCON) Queens "ITALIANS"

February and March deliveries—for Untested, \$1.50 each; April, \$1.25. Tested Queens, 50 cts. additional; Select Tested, \$1.00 extra. Breeders, prices on application.

**JOHN C. FROHLIGER,**

257-9 Market St., **San Francisco, Cal.**

Or **Berkeley, Cal.**

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### COST SALE

Of **BEE-KEEPERS' SUPPLIES** for the next 4 months. Too big Stock to carry over. Write your wants; I will make price to suit. Sept. 26, 1911.

**W. D. Soper,** 323 and 325 **Jackson, Mich.**

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### SUPERIOR BEE-SUPPLIES

Specially made for Western bee-keepers by G. B. Lewis Co. Sold by

**Colorado Honey-Producers' Association,**

DENVER, COLO.

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### For Sale—15 Eggs \$1.00

Indian Runner Ducks—White and Fawn.

2-3 **J. F. Michael, Rt. 1, Winchester, Ind.**

Please mention Am. Bee Journal when writing.



## HONEY AND BEESWAX

CHICAGO, Jan. 31.—Honey is not selling with the freedom we would like, still there is some going all the time, and stocks are working down. We continue to get 17@18c per pound for the fancy grades of white comb, with the undergrades selling at a discount of 1@5c per pound from the above prices. Extracted is quite plentiful with an easy market, prices ranging on white from 8@9c per pound, amber 7@8c per pound. Beeswax 30@32c. R. A. BURNETT & Co.

CINCINNATI, Feb. 1.—The market on comb honey has fallen off somewhat, only demand for fancy white selling in retail way at \$1.00 per case; and jobbers at \$3.60@3.75, according to quantity. Extra white extracted in 60-lb. cans at 10c; light amber in 60-lb. cans at 8½c; amber in barrels, 7@7½c. Beeswax in fair demand at \$33 per hundred. The above are our selling prices, not what we are paying. C. H. W. WEBER & Co.

INDIANAPOLIS, Feb. 2.—Demand is good for best grades of honey. White comb sells for 18c in 10-case lots, finding prompt and ready sales. Amber grades in slow demand with lower prices. Extracted seems to be plentiful, and is selling at 11@12c in 5-gallon cans. Beeswax is in good demand, and producers are being paid 31c. WALTER S. POWDER.

DENVER, Feb. 2.—Supply of strictly white comb honey is about exhausted, and prices as a consequence are higher than they otherwise would be, as the demand is light. We quote No. 1 white comb honey, per case of 24 sections, \$3.60; No. 1 light amber, \$3.35;

No. 2, \$3.15. White extracted, per pound, 9c; light amber, 8c; strained, 6½@7½c. For clean yellow beeswax we pay 26c cash, or 28c in trade, delivered here.

THE COLO. HONEY-PRODUCERS' ASS'N.  
F. Rauchfuss, Mgr.

SAN FRANCISCO, Feb. 1.—The demand for honey the past month has been more marked, and there is still a lot unsold. Comb honey, 15@18c; water-white extracted, 9@10c; light amber, 8@8½c; lower grades, 5@6½c. Beeswax, 27½@30c per pound for light in color, and 23@26c for dark. J. C. FROHLIGER.

CINCINNATI, Jan. 31.—The demand for honey is rather good, considering the great quantity that is still in the West unsold. We continue to sell fancy comb at \$3.75 to \$4.00 a case; fancy extracted honey at 9@11c a pound, according to the quantity and quality purchased; while for amber extracted in barrels we are getting from 6½@7½c a pound. We are paying 30c a pound delivered here for choice, bright yellow beeswax absolutely free from dirt. THE FRED W. MUTH Co.

NEW YORK, Feb. 1.—Comb honey is well cleaned up, and prices are well sustained for what little odd lots are coming in. As to extracted, the market is weakening, and prices are gradually declining. Strictly fancy clover, California white and water-white sage hold their own fairly well, on account of not much stock being around. There are large supplies of all other grades, such as alfalfa, amber, light-amber and white, etc., and prices show a decided downward tendency. In fact, in large quantities

quotation prices will have to be shaded in order to effect sale. We quote nominally: Alfalfa, 6½@7½c per pound, according to quality; California white sage at from 8½@9c per pound; water-white at from 9½@10c; white clover at from 9@10c; buckwheat at from 6½@7c. Beeswax steady at from 30@31c. HILDRETH & SEGELKEN.

KANSAS CITY, Mo., Feb. 1.—Receipts and demand light. We quote: No. 1 white comb, 24-section cases, \$3.25; No. 2, \$3.00; No. 1 amber, \$3.00; No. 2, \$2.75. Extracted, white, per pound, 9c; amber, 8c; dark, 5½c. Beeswax, 25@28c. C. C. CLEMONS PRODUCE Co.

BOSTON, Feb. 1.—Fancy white comb, 17@18c; light amber, 15c; amber, 14c. Fancy white extracted, 10@11c; light amber, 9@10c; amber, 9c. Beeswax, 30c. BLAKE-LEE Co.

"Southern Bee-Culture" is the name of a booklet written by J. J. Wilder, perhaps the most extensive bee-keeper and honey-producer in the whole State of Georgia. It is a real hand-book of Southern bee-keeping, with methods so simply described that they are easy to carry out. Every bee-keeper, especially in the South, should have a copy of Mr. Wilder's booklet. He conducts apiaries by the dozen, and produces many tons of honey every season. He tells in careful detail just how he does it. The price of this booklet is 50 cents, or we now club it with the American Bee Journal for a year—both for \$1.30. Send all orders to the American Bee Journal, 117 North Jefferson St., Chicago, Ill.

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**PROCESS OF MANUFACTURE.**—The very best grades of beeswax, clarified without that acid taste or odor which is so objectionable in some makes, sheeted by our heavy pressure process, reduced and polished by smoothrolls, allowed ample time to cure, is finally passed through embossed power mills, resulting in that clear, absolutely pure product, **FAMOUS THE WORLD OVER, "FALCON" FOUNDATION.** No detail, from the buying of the beeswax to the packing of the product, is slighted. The care and skill in cleansing, the absolute purity from all foreign matter, the enormous pressure in sheeting into continuous belt-like sheets, the transparency and perfectness of the finished product, with the appearance and smell of the hive itself (for it is indeed the product of the bees, purified, embossed and returned for their use), has made a product, **"FALCON" FOUNDATION**, which has been chosen by the bees themselves as the acme of foundations. The **"FALCON" WAY** is **OUR WAY** developed in thirty years of foundation manufacture.

## QUALITY

**"FALCON" FOUNDATION** made by our special methods has won a reputation on account of its perfect cell formation, non-stretching qualities, and the readiness with which bees begin work upon it. Our section foundation is perfectly clear, and with it is produced those pearly white sections of honey so much admired. Our brood foundation is particularly adapted for full sheets in brood or extracting frames. Its strength eliminates all stretched cells in which drone-brood is reared or elongated cells in which no eggs at all are laid. Use **"FALCON" FOUNDATION** and satisfy your bees.

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Get **"FALCON" FOUNDATION** of our nearest dealers. If you don't know the names drop us a postal.

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*Where the good bee-hives come from*

**C. C. Clemons Bee-Supply Co.**  
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**W. T. Falconer Mfg. Co.**  
117 North Jefferson Street, Chicago, Illinois.

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WHERE pure water is plentiful, comes when you wish, and stays when you will;

WHERE cyclones are unknown, and blizzards impossible;

WHERE crops never fail from drouth, and the unharvested harvest is never damaged by storms;

WHERE your stock can feed and fatten on pastures that are always green; and you can work in your fields with profit and pleasure every day in the year—except Sunday;

WHERE you can grow to perfection all the pleasant fruits, and all else that can contribute to make your home a paradise;

WHERE you can raise two crops of some things (on the same ground the same season), and continu-

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WHERE "sunny days" cover two-thirds the time, and yet sunstroke or "death or damage from heat" are unknown;

WHERE bees banquet in fields of never-fading flowers, securing rich stores of honey—which they do not consume "in wintry hours;"

WHERE you can grow practically all the nuts and fruits of commerce to perfection and in enormous quantities. Remember that Apricots, Almonds, Raisins, Figs, Olives and **Washington Navel Oranges** can not be grown in commercial quantities anywhere in the United States outside of California. Hence, a good price is assured, and over-production impossible.

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WHERE you can (with the help of your boys) take the best care of it—thus forever ending the torturing ghost of "hired help;"

WHERE "your boys" will get rich on berry-patches, and "the women-folks" with poultry—as a by-product;

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from ten acres than can be wrested from a quarter section of the best farm land in the Mississippi Valley, and all this while escaping the lonesome isolation and dreary drudgery inseparable from the larger farming.

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